Article:
Morgner, C. orcid.org/0000-0003-2891-0113 (2023) The medium in the sociology of Niklas Luhmann: from children to human beings. Educational Theory, 73 (6). pp. 890-916. ISSN 0013-2004

https://doi.org/10.1111/edth.12609

EDUCATIONAL THEORY

THE MEDIUM IN THE SOCIOLOGY OF NIKLAS LUHMANN: FROM CHILDREN TO HUMAN BEINGS

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Abstract. In this paper, Christian Morgner provides a critical reading of Niklas Luhmann's thinking as ignoring human beings or even as antihumanist. Here, he presents an alternative view that centers on Luhmann's idea of the child or human being as a medium. To explain Luhmann's use of these ideas to conceptualize the child and the consequences for research, Morgner refers to the translation of Luhmann's paper "The Child as the Medium of Education" and to as yet unpublished material from his famous card-box reference system. Drawing on these materials, Morgner can more clearly illuminate Luhmann's novel perspective and how it could inform further theoretical development, supported by new analysis of existing research in other fields, including developmental psychology, education, philosophy, and sociology. He concludes that, far from neglecting the human, Luhmann's theory takes human being very seriously and acknowledges its key role as a form-giving medium in addressing the challenges faced by contemporary society. This renewed perspective should be of particular interest to educational theorists, enabling them to more freely apply his ideas in various settings.

Key Words. human being; medium; uncertainty; childhood; psychology; meaning-making

Introduction: Does Niklas Luhmann's Sociology Ignore Human Beings?

While Niklas Luhmann is widely recognized as a social theorist, this paper addresses a part of his work largely unknown to the Anglophone reader: his theory of the medium and its application to notions of the child, the individual, and human being in general. Clarifying these underdiscussed concepts provides an opportunity to critically reflect upon the dominant narrative that Luhmann's thinking ignores human beings, or is even antihumanist. If this were true, anyone with an interest in education would probably not want to read any further. This issue must be addressed as a precursor to any discussion of "The Child as the Medium of Education," which is published here in English for the first time, because Luhmann's theoretical program is in fact strongly concerned with human beings, and the criticism that it is not is based on an overly narrow view of his work. This correction is also necessary in the light of developments in fields such as postcolonialism, which reveal the need to question existing accounts of human beings that rely on notions of "great authors" and deploy notions like "founding father" or "great and greatest," among other attributions of grandness. These accounts have a reductive tendency in presenting ideas under narrow labels, for instance, "functionalism," "social positivism," "postmodernism," or "Marxism," ignoring ideas that do not seem to fit easily into prevailing accounts of the contributions of these sociological "grandees."[1]

1. Consider for example the longstanding neglect of Georg Simmel, who regained his status as a classic sociologist only when his collected writings (edited by Otthein Rammstedt) were republished in the late 1980s; see Hartman Tyrell, Otthein Rammstedt, and Ingo Meyer, eds., *Georg Simmels*

By way of response to antihumanist readings of Luhmann's sociology, the present paper offers an alternative view, centered on his idea of the child or human being as medium. This alternative perspective should be of particular interest to educational theorists, enabling them to more freely apply his ideas in various settings.

There are several narrow readings of Luhmann's work:

1. The first of these positions is that Luhmann is a "fully committed systems theorist," with all the conservativism that entails. The core contention is that systems are seen as more important than the individual and that, in reducing complexity, they restrict the horizon of human possibilities.[2] In other words, the claim is that Luhmann reduces human beings to mere objects in social systems, which overrule individual thought. This leads to a "loss of the 'human voice'."[3]

2. It has also been claimed that Luhmann's use of the concept of autopoiesis is antihumanist. Autopoiesis refers to a system's ability to produce and maintain itself by creating its own parts; the claim is that humans have lost the ability to shape their social world because they are not part of this process, of which "individuals have not only lost control but in relation to which they might also absolve themselves of responsibility for autonomous action."[4] Humans are therefore marginalized by an absence of "real individuals"[5] who might create the social world. For Christian Fuchs and Wolfgang Hofkirchner, both human actors and social structures contribute to the creation of society. They see any idea that "human beings permanently create"[6] as a departure from Luhmann's understanding.

große "Soziologie": Eine kritische Sichtung nach hundert Jahren [Georg Simmel's Great "Sociology": A Critical Review after a Hundred Years] (Bielefeld, Germany: Transcript, 2011). Similarly, the work of W. E. B. Du Bois was ignored for a long time; see Aldon D. Morris, *The Scholar Denied: W. E. B. Du Bois and the Birth of Modern Sociology* (Berkeley: University of California Press, 2015). Notably, almost all of those rediscovered luminaries were men; see Anna Isaksson, "Classical Sociology through the Lens of Gendered Experiences," *Frontiers in Sociology* 5 (2020): 116–123.

2. John W. Murphy, "Review of *Trust and Power*," *Studies in Soviet Thought* 23, no. 3 (1982): 266–270.

3. Zenon Bankowski, "How Does It Feel to Be on Your Own? The Person in the Sight of Autopoiesis," *Ratio Juris* 7, no. 2 (1994): 258.

4. Roger Cotterrell, *Law's Community: Legal Theory in Sociological Perspective* (Oxford: Clarendon Press, 1995), 108.

5. Arthur J. Jacobson, "Autopoietic Law: The New Science of Niklas Luhmann," *Michigan Law Review* 87, no. 6 (1989): 1649.

6. Christian Fuchs and Wolfgang Hofkirchner, "Autopoiesis and Critical Social Systems Theory," in *Advanced Series in Management*, ed. Rodrigo Magalhães and Ron Sanchez (Bingley, UK: Emerald, 2010), 111–129.

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3. The third critique takes issue with Luhmann's distinction between social and consciousness systems, which is thought to imply that human beings are excluded from society because they form part of the social system's environment. Some scholars have consequently been led to assume that "people themselves do not much matter according to Luhmann's theory"[7] or that "Luhmann considers individuals or subjects uninteresting."[8] Ulrich Beck has been especially critical of this position; in his wider project on modernity, he cites the example of Eastern Europe's "incomplete democracies" and their transformation since 1989. He refers to the uprising of individuals against an outside system as evidence of the failure of the socialist system and of system theory itself: "Also system theory, which considers society independent of human beings, has been profoundly refuted."[9]

4. The most prominent critic is Jürgen Habermas. He argues that Luhmann's failure to accommodate linguistically generated intersubjectivity means that he cannot assess matters of common consciousness, societal consensus, or public opinion formation. According to Habermas, Luhmann's inability to assess the contribution of human beings in this regard amounts to a "methodological antihumanism,"[10] separating the individual from society. While Habermas asserts the existence of a supra-individual entity, Luhmann is seen as lacking any theory of the public sphere integrating the whole and its parts.

A number of authors have advanced clarifications in defense of Luhmann's position or have countered what they consider misreadings and misconceptions of Luhmann's ideas.[11] However, even these interventions have largely missed the opportunity to examine Luhmann's own conceptualizations. Rather than adding further clarifications or seeking simply to counter the above criticisms, the present paper revisits Luhmann's work on the medium of the child and the wider implications for education and social theory. Specifically, the paper asks what Luhmann means by the child as a medium, how this relates to existing education theory, and what the implications and potential of this

7. Alan Wolfe, "Sociological Theory in the Absence of People: The Limits of Luhmann's Systems Theory," *Cardozo Law Review* 13, no. 5 (1992): 1736.

8. Anita Kihlström, "Luhmann's System Theory in Social Work: Criticism and Reflections," *Journal of Social Work* 12, no. 3 (2012): 287–299.

9. Ulrich Beck, "Die Unvollendete Demokratie" [The Unfinished Democracy], *Der Spiegel* 43, no. 15 (1989): 187.

10. Jürgen Habermas, *The Philosophical Discourse of Modernity: Twelve Lectures* (Cambridge, MA: MIT Press, 1987), 377.

11. For an overview, see the chapter on individualism in Detlef Horster, *Niklas Luhmann*, (Munich, Germany: C. H. Beck, 2005); see also chapter 3 in Hans Georg Moeller, *The Radical Luhmann* (New York: Columbia University Press, 2012).

conception might be, especially when children or human beings are considered in general as medium. This is not merely a "defense" of Luhmann against certain criticisms, but a reassertion of his actual theory, which opposes those mischaracterizations.

"The Child as the Medium of Education" and Its Reception in Education Theory

The above questions seem pertinent because those who claim that Luhmann ignores the human being may be unaware that Luhmann has written extensively on this subject. His attention to it began early; in fact, a chapter in his doctoral dissertation is titled "Human Beings and Standards."[12] He later devoted a lengthy piece to the individual,[13] and the fifth volume of his *Sociological Enlightenment* series is titled *Sociology and the Human Being*.[14] Throughout his writings, one finds essays and articles on the boss,[15] on politicians,[16] on men and women,[17] on the human subject[18] and, as discussed in this symposium, on the child.[19] In itself, the disparity between these extensive writings and the claims of his critics warrants further investigation. In this paper, this broader discussion on the status of human beings will be considered from the perspective of Luhmann's paper on the child as a medium. Based on this perspective, the reception of Luhmann's paper on the child can be divided into three categories.

Works in the first category treat Luhmann's notion of the child as a medium simply as an example of his writings on education, but they fail to address his core concerns in this regard. As Andrew Abbott has argued,[20] references of this type are not substantive but merely acknowledge that the author must be read or

12. Niklas Luhmann, *Funktionen und Folgen formaler Organisation* [Functions and Consequences of Formal Organization] (Berlin, Germany: Duncker & Humblot, 1964).

13. Niklas Luhmann, "Individual, Individuality, Individualism," in *The Making of Meaning: From the Individual to Social Order: Selections from Niklas Luhmann's Works on Semantics and Social Structure*, ed. Christian Morgner (Oxford: Oxford University Press, 2022), 217–299.

14. Niklas Luhmann, *Soziologische Aufklärung 6: Die Soziologie und der Mensch* [Sociological Enlightenment 6: Sociology and Human Being], 4th ed. (Wiesbaden, Germany: Springer, 2018).

15. Niklas Luhmann, *The New Boss* (Chichester, UK: John Wiley, 2018).

16. Niklas Luhmann, "Politicians, Honesty, and the Higher Amorality of Politics," *Theory, Culture & Society* 11, no. 2 (1994): 25–36.

17. Niklas Luhmann, "Frauen, Männer und George Spencer Brown" [Women, Men, and George Spencer Brown], *Zeitschrift für Soziologie* 17, no. 1 (1988): 47–71.

18. Niklas Luhmann, "Die Tücke des Subjekts und die Frage nach dem Menschen" [The Treachery of the Subject and the Question of the Human Being], in *Der Mensch – das Medium der Gesellschaft?*, ed. Peter Fuchs and Andreas Göbel (Frankfurt, Germany: Suhrkamp, 1994), 40–56.

19. Niklas Luhmann, "The Child as the Medium of Education," in this issue.

20. Andrew Abbott, "Varieties of Ignorance," *American Sociologist* 41, no. 2 (2010): 174–189.

cited. In such cases, there is no real engagement with Luhmann's conception of the child:

- "The child, for example, appears as the medium of education (cf. Luhmann 1991)."[21]
- "For pedagogy as practice and science, it becomes constitutive of their roles that they have children as the main "medium" of their professional action (to borrow a term from the social system theory) (Luhmann, 1991)."[22]
- "The answer is the semantic of childhood: the expression 'child' designates the invention of a medium for the purpose of communication (Luhmann 1991)."[23]
- "An important stimulus to consider the active participation of young people in research comes from childhood and youth research, in which adolescents are increasingly considered as subjects and actors and no longer as objects or as a 'medium of education' (Luhmann 2006)."[24]

These quotes from authors in different geographical regions appeared in a range of academic publications. All suggest that Luhmann's contribution should be acknowledged, but there is no meaningful engagement with his conception of the child as a medium. Notably, all of these publications relate to the broader areas of education theory or philosophy of education rather than to sociology or social theory.

A second category of response addresses Luhmann's theory of education, including a number of publications authored by specialists in this area. A cursory analysis of citations reveals that Luhmann's approach has been discussed in the Anglophone literature for more than thirty years, again by scholars from different geographical regions. These publications address a wide range of topics, including

21. Cited by Volker Kraft, "Constants of Education," in *Philosophical Perspectives on Compulsory Education*, ed. Marianna Papastephanou (New York: Springer, 2014), 17.

22. Cited by Juergen Zinnecker, "Children in Young and Aging Societies: The Order of Generations and Models of Childhood in Comparative Perspective," in *Children at the Millennium: Where Have We Come from, Where Are We Going*?, ed. Sandra L. Hofferth and Timothy J. Owens (Amsterdam, The Netherlands: JAI, 2011), 44.

23. Cited by Michael-Sebastian Honig, "Kindheit als praxeologisches Konzept. Von der generationalen Ordnung zu generationierenden Praktiken" [Childhood as a Praxeological Concept: From the Generational Order to Generative Practices], in *Konturen praxistheoretischer Erziehungswissenschaft*, ed. Jürgen Budde, Martin Bittner, Andrea Bossen, and Georg Rißler (Weinheim, Germany: Beltz Juventa, 2018), 198 (my translation).

24. Cited by Christine Atzmüller and Ingrid Kromer, "Peer Violence — Gewalt unter Jugendlichen aus der Perspektive von Mädchen und Burschen" [Peer Violence — Violence among Adolescents from the Perspective of Girls and Boys], *Soziales Kapital* 9 (2013): 2 (my translation).

education and globalization,[25] education and socialization,[26] schools,[27] the history of the educational system,[28] complexity and education,[29] social welfare and education,[30] and the future of education.[31] However, none of these works refer to Luhmann's publication on the child as a medium or elaborate further on this topic.

A third category refers specifically to Luhmann's publication on the child as a medium and acknowledges its importance. Works in this group, however, typically suggest that Luhmann's proposition is insufficient and needs to be revisited. Many — perhaps even most — of these works engage with Luhmann's later proposition concerning the life course as medium of the education system.[32] Aside from the life course, others emphasize intelligence,[33] knowledge and certificates,[34] learning,[35] and incompleteness.[36]

25. Eric Mangez and Pieter Vanden Broeck, "The History of the Future and the Shifting Forms of Education," *Educational Philosophy and Theory* 52, no. 6 (2020): 676–687.

26. Raf Vanderstraeten, "Luhmann on Socialization and Education," *Educational Theory* 50, no. 1 (2000): 1–23.

27. Derek Bunyard, "Niklas Luhmann: A Systems View of Education and School Improvement," *Educational Futures* 2, no. 3 (2010), https://educationstudies.org.uk/?p=505.

28. Raf Vanderstraeten, "The Social Differentiation of the Educational System," *Sociology* 38, no. 2 (2004): 255–272.

29. Ton Jörg, Brent Davis, and Geole Nickmans, "Towards a New Complexity Science of Learning and Education," *Educational Research Review* 2, no. 2 (2007): 145–156.

30. Kaspar Villadsen, "'Polyphonic' Welfare: Luhmann's Systems Theory Applied to Modern Social Work," *International Journal of Social Welfare* 17, no. 1 (2008): 65–73.

31. Eric Mangez and Pieter Vanden Broeck, "Worlds Apart? On Niklas Luhmann and the Sociology of Education," *European Educational Research Journal* 20, no. 6 (2021): 705–718.

32. For an overview of research on this topic, see Achim Brosziewski, "Knowledge as a Form of the Life-Course: The General Constructivism of Social Systems Theory," in *Social Constructivism as Paradigm? The Legacy of the Social Construction of Reality*, ed. Michaela Pfadenhauer and Hubert Knoblauch (Abingdon, UK: Routledge, 2019), 216–234. See also Eric Mangez and Pieter Vanden Broeck, eds., "Niklas Luhmann and Education: Observing World Society," special issue, *European Educational Research Journal* 20, no. 6 (2021): https://journals.sagepub.com/toc/eera/20/6. This issue includes an English translation of Luhmann's "Education: Forming the Life Course," trans. Rhodes Barrett, https://doi.org/10.1177/1474904121102.

33. Dirk Baecker, "Erziehung im Medium der Intelligenz" [Education in the Medium of Intelligence], in *Beobachtungen des Erziehungssystems: Systemtheoretische Perspektiven*, ed. Yvonne Ehrenspeck and Dieter Lenzen (Wiesbaden, Germany: VS Verlag, 2006), 26–66.

34. Jochen Kade, "Lebenslauf – Netzwerk – Selbstpädagogisierung. Medienentwicklung und Strukturbildung im Erziehungssystem" [Life Course – Network – Self-Education: Media Development and Structure Formation in the Education System], in *Beobachtungen des Erziehungssystems*, ed. Ehrenspeck and Lenzen, 12–25.

35. Michael Göhlich, "Medium Kind? Für eine system- und handlungstheoretische Fundierung pädagogischer Reflexion" [Medium Child? For a System- and Action-Theoretical Foundation of Pedagogical Reflection], in *Kinder, Kindheiten, Konstruktionen. Erziehungswissenschaftliche Perspektiven und sozialpädagogische Verortungen*, ed. Sabine Andresen and Isabell Diehm (Wiesbaden, Germany: VS Verlag, 2006), 53–72.

36. Peter Fuchs, "Die soziologische Beobachtung der Erziehungswissenschaft" [The Sociological Observation of Education Studies], in *Zwischen Reflexion, Funktion und Leistung: Facetten der*

This preliminary overview suggests that while Luhmann's paper on the child as a medium is seen as a standard to be cited and as a point of departure for other theoretical contributions, the core topic itself — the child as a medium — has not been deeply engaged.

The Child and the Distinction between Medium and Form

Until the 1970s, academic theories of childhood relied on phase or stage models emphasizing different aspects of physical or mental development. A number of early twentieth century writers divided children's physiological development into different growth stages related to age: for example, baby (birth to end of year 1), toddler (year 2 to year 5), and child (year 6 to year 14).[37] These different age cohorts were based on physiological measures (such as average height) and physical skills.[38] This is still echoed in the notion of "grown-up," connoting bodily growth from child to adult, and this reasoning was also applied by psychologists to phase or stage models of cognitive development.[39]

While physiological approaches tend to emphasize gradual and ongoing changes, cognitive stage theories typically highlight the discontinuities between different stages. Jean Piaget's account of cognitive development is probably among the best-known stage theories.[40] The cognitive stages approach was further elaborated during the 1960s and early 1970s by Lawrence Kohlberg, who related cognitive stages to moral development.[41] All of these stage models specify seemingly

Erziehungswissenschaft, ed. Volker Kraft (Bad Heilbrunn, Germany: Klinkhardt, 2007), 69–82, http://www.fen.ch/texte/gast_fuchs_erziehungswissenschaft.pdf.

37. See Jacquelynne S. Eccles, "The Development of Children Ages 6 to 14," *The Future of Children* 9, no. 2 (1999): 30–44; see also Jane Waldfogel, *What Children Need* (Cambridge, MA: Harvard University Press, 2010). There are multiple versions of this taxonomy. In earlier Christian societies, the word "child" was applied to persons in general as children of God or until they entered the labor force, usually around the age of seven; see Marjatta Rahikainen, ed., *Centuries of Child Labor: European Experiences from the Seventeenth to the Twentieth Century* (London: Routledge, 2004).

38. Richard Everingham, "Scammon, The Measurement of the Body in Childhood," in *The Measurement of Man*, ed. James Arthur Harris, Clarence Martin Jackson, Donald Gildersleeve Paterson, and Richard E. Scammon (Minneapolis: University of Minnesota Press, 1930), 173–215.

39. Bert Hayslip Jr., Craig S. Neumann, Linda Louden, and Benjamin Chapman, "Developmental Stage Theories," in *Comprehensive Handbook of Personality and Psychopathology*, ed. Michael Hersen and Jay C. Thomas (Hoboken, NJ: John Wiley & Sons, 2006), 115–141.

40. For an overview of his approach, see Jean Piaget, "The Theory of Stages in Cognitive Development," in *Measurement and Piaget*, ed. Donald Ross Green, Marguerite P. Ford, and George B. Flamer (New York: McGraw-Hill, 1971), 1–11. See James W. Fowler, "I. Toward A Developmental Perspective On Faith," *Religious Education* 69, no. 2 (1974): 207–219; and Jane Loevinger, *Ego Development* (San Francisco: Jossey-Bass, 1976). Martina Keller emphasizes socio-cognitive stages (see Monika Keller and Siegfried Reuss, "An Action-Theoretical Reconstruction of the Development of Social-Cognitive Competence," *Human Development* 27, nos. 3/4 [1984]: 211–220). Jerome Bruner, *Toward a Theory of Instruction* (Cambridge, MA: Belknap Press, 1966), devotes particular attention to intellectual abilities and cognitive stages and proposes the idea of spiral development.

41. For an overview, see Lawrence Kohlberg, *Essays on Moral Development, Vol. I: The Philosophy of Moral Development* (San Francisco: Harper & Row, 1981).

objective standards and norms defining what it means to be a child.[42] However, criticisms of this tradition began to emerge in the mid-1970s, with a growing emphasis on the need to consider individual developmental differences in their social, historical, and cultural contexts.[43] The growing influence of this line of thought during the 1980s owed less to sociologists or educational theorists than to historians like Philippe Ariès,[44] Jan Hendrik van den Berg,[45] and Georges Snyders.[46] Their emphasis on the varying historical role of children questions the objectivity of psychological stage models as a basis for defining what it means to be a child, and the sociologist Chris Jenks[47] asserted that the question, What is a child?, should instead be addressed by a sociology of childhood.[48] This sociological approach opened up two new avenues for thinking about children:

1. The above trajectory prompted sociological research into social changes influencing the meaning of childhood. The findings confirmed that seemingly objective models for the development of children and their socialization as proposed by stage theories was only institutionalized in the eighteenth century, with the advent of modern families, and in the twentieth century, with the emergence of formal schooling.[49] The very concept of *child* morphed into an educational concept based on assumptions about their nature (ranging from Jean-Jacques Rousseau to Maria Montessori) and the need for completion through education.[50]

42. More recently, these phase models have resurfaced as neurologists now classify differences in terms of physiological shapes or cognitive capacities of the brain. See, for instance, Sarah-Jayne Blakemore, *Inventing Ourselves* (London: Penguin Books, 2019); and Frances E. Jensen, *The Teenage Brain: A Neuroscientist's Survival Guide to Raising Adolescents and Young Adults* (London: HarperCollins, 2015).

43. See Hans Peter Dreitzel, ed., *Childhood and Socialization (Recent Sociology No. 5)* (New York: Macmillan, 1973); and Courtney L. Marlaire, *Theoretical Models of the Child in Sociology* (Madison: University of Wisconsin, 1977).

44. Philippe Ariès, *Centuries of Childhood: A Social History of Family Life* (New York: Vintage, 1962).

45. Jan Hendrik Van den Berg, *The Changing Nature of Man: Introduction to a Historical Psychology: Metabletica* (New York: W. W. Norton, 1961).

46. Georges Snyders, *La Pédagogie en France aux XVIIe et XVIIIe siècles* [Pedagogy in France in the Seventeenth and Eighteenth Centuries] (Paris: P.U.F., 1965).

47. Chris Jenks, "Introduction: Constituting the Child," in *The Sociology of Childhood: Essential Readings*, ed. Chris Jenks (London: Batsford Academic and Educational, 1982), 9–24.

48. Jenks subsequently formulated this proposition as follows: "Sociology endeavours to realize the child as constituted socially, as a status of a person which is comprised through a series of, often heterogenous, images, representations, codes and constructs." Chris Jenks, "General Introduction," in *Childhood: Critical Concepts in Sociology*, vol. 1, ed. Chris Jenks (London: Routledge, 2005), 1.

49. Hugh Cunningham, *The Invention of Childhood* (London: BBC Books, 2006); and David Klett, *Die Form des Kindes. Kind, Familie, Gesellschaftsstruktur* [The Form of the Child: Child, Family, Social Structure] (Weilerswist, Germany: Velbrück, 2013).

50. Benson R. Snyders, *The Hidden Curriculum* (New York: Alfred A. Knopf, 1971); and Jeroen J. H. Dekker, *Educational Ambitions in History: Childhood and Education in an Expanding Educational Space from the Seventeenth to the Twentieth Century* (Berlin, Germany: Peter Lang, 2010).

> 2. In a second major shift, the meaning-making of childhood came to be seen as a social phenomenon rather than being determined by biology. This idea is expressed through the *construction* of childhood, an often misunderstood phrase; rather than stages of physical or mental development, childhood is defined through the manner in which these bodily and mental features are viewed as relevant in society, that is, how meaning is assigned to them. In other words, the construction of childhood depends on patterns of social recognition that constitute children *as* children.[51]

Luhmann's paper reflects this broader context, outlining a new theoretical approach to "the child" underpinned by terms like *medium/form*, *meaning*, *semantic*, and *non-transparency*. To explain Luhmann's use of these ideas to conceptualize the child and the consequences for research, I refer to the translated paper in this issue and as-yet unpublished material from Luhmann's famous card-box reference system, which contained thirty-seven notes on the topic *Kind als Sonderobjekt der Pädagogik* (Child as a Special Object of Pedagogy).[52] On the first of these cards, Luhmann notes that in preparing such a work, one must consider the history of "constructions of the child as a special object of pedagogy" with a view to understanding the "construction of a universal subject area through which education can become an autonomous social system."[53] The card refers to multiple primary and secondary sources, such as Philippe Ariès, Ivy Pinchbeck, and Alexander Francis Chamberlain. Only a few of these extensive sources were integrated into the paper itself; rather than presenting a sociological history of the child, Luhmann uses the historical approach as a research methodology.[54] In particular, he traces historical changes in the meanings of important social ideas (which he refers to as *semantics*, following the work of Reinhard Koselleck)[55] and relates these to changes in the broader structure of society. This methodology addresses three issues: (1) the extent to which meanings (of terms like *child*)

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51. This social development, taken to extremes, resulted in claims being made for the autonomous rights of young children, i.e., that they were capable of making decisions and should be consulted from a very young age. See, for example, Priscilla Alderson, *Young Children's Rights: Exploring Beliefs, Principles and Practice*, 2nd ed. (London: Jessica Kingsley Publishers, 2008); and Michael King, "Sociology of Childhood as Scientific Communications — Observations from a Social Systems Perspective," *Childhood* 14, no. 2 (2007): 193–213.

52. These cards, all handwritten and undated, are available in the Luhmann archive at the University of Bielefeld. They are organized according to a catalogue system Luhmann developed himself; see Niklas Luhmann, "Communicating with Slip Boxes. An Empirical Account," in *Two Essays by Niklas Luhmann*, trans. Manfred Kuehn (2015), https://luhmann.surge.sh/communicating-with-slip-boxes. Here, I will cite these cards according to the number Luhmann assigned to each.

53. Niklas Luhmann, 7/14f1a5, unpublished card, n.d.

54. See Morgner, ed., *The Making of Meaning*.

55. Reinhard Koselleck, "Introduction and Prefaces to the Geschichtliche Grundbegriffe: (Basic Concepts in History: A Historical Dictionary of Political and Social Language in Germany)," *Contributions to the History of Concepts* 6, no. 1 (2011): 1–37.

change in the transition from a society that is primarily stratified to one that is functionally differentiated, relating these new meanings to the structures of modern society; (2) the new social contexts and problem constellations in which these meanings appear and become central; and (3) testing theoretical concepts that might explain these changes.

The Semantics of "the Child"

Unlike historians, who are concerned with such questions as whether there ever have been children as a distinct class of being, Luhmann was concerned to identify the wide-ranging changes in the meaning of *child* in relation to changes in the structure of society rather than changes in individual psychological or physical conditions. Under the influence of theological beliefs, it was not until the seventeenth century that children were defined by the social stratum into which they were born.[56] The "identity" of a child was more or less defined by that point in time. They were seen as fixed entities, with little room for individual development. In these social circumstances, the main role of education was to "immunize children (who had been programmed by nature to try and achieve perfection)."[57] However, by the eighteenth century, within a radically changing societal context, this notion of the child as predetermined by its birth could no longer be accepted: "it was now possible for any child to become anything."[58] The child no longer appears incomplete; rather than sharing the world of adults, they are seen to grow into their own world. However, to make this transition, they require a systematic education.

Changing Semantics: Why Are There Children?

Reacting to these new unlimited possibilities, education theorists pondered how some semblance of order could be restored to ensure that society would not fall apart.[59] They suggested that to grow into successful members of society, children must be equipped with the requisite knowledge and skills, which they could only acquire through formal school-based education. The sociologist and educational theorist Émile Durkheim formulated this idea in his inaugural lecture on the science of education at the Sorbonne on December 4, 1902: "Society can survive only if there exists among its members a sufficient degree of homogeneity; education perpetuates and reinforces this homogeneity by fixing in advance in the child's soul the essential similarities that collective life presupposes."[60]

56. See Colin Heywood, *A History of Childhood: Children and Childhood in the West from Medieval to Modern Times* (Cambridge, UK: Polity, 2001); and Shulamith Shahar, *Childhood in the Middle Ages* (London: Routledge, 1992).

57. Luhmann, "The Child as the Medium of Education."

58. Ibid.

59. Jürgen Oelkers, "Rousseau and the Image of 'Modern Education,'" *Journal of Curriculum Studies* 34, no. 6 (2002): 679–698.

60. Émile Durkheim, "Pédagogie et sociologie" [Pedagogy and Sociology], *Revue de Métaphysique et de Morale* 11, no. 1 (1903): 45–46 (my translation). Although there is an English translation of this

Beyond knowledge and skills, the child's education should also develop them as independent individuals who can contribute to society according to their own preferences. Wilhelm von Humboldt defined this as *Bildung*: "We demand that education [*Bildung*], wisdom, and virtue, be powerfully and universally propagated … to such an extent that the concept of humanity … leave[s] a visible impression [in human beings]. Although all these demands are limited to humans' inner beings, their nature drives them to reach beyond themselves … [by] reflect[ing] back into their inner beings. … To this end, however, they must bring the mass of objects closer to themselves, impress their minds upon this matter, and create more of a resemblance between the two."[61] Summarizing these approaches, Luhmann suggested that they turn the adult problem of social order into an issue for children: "The world is not as it should be, so one must educate."[62] Luhmann acknowledges these semantic changes but disagrees with the formulation of the problem as simply a matter of participation in society and its solution (educating children or fixing the child's soul).

This formulation of the problem does not take children or human being seriously; indeed, it also neglects important developments in biology, cybernetics, neuroscience, engineering, and philosophy in the second half of the twentieth century that view the human mind and social activities as self-referential or autopoietic systems.[63] On this view, consciousness and social systems are operationally closed units that reproduce themselves by activating, itemizing, recalling, and forgetting their own structure. These systems exist independently, while also presupposing each other. No meaningful psychological activities can develop without participation in communication and no communication can occur without the participation of consciousness systems, yet "there can be no joint operation and no overarching system."[64] If one accepts this proposition, the new semantics of "the child" and associated educational theories must be reformulated, as no one (including teachers) can fully specify these conscious operations

text, I have opted to retranslate this portion because the existing translation is incomplete. For the English translation, see Émile Durkheim, "Pedagogy and Sociology," in *Education and Sociology*, trans. Sherwood D. Fox (*New York: Free Press*, 1956), 113–134.

61. Wilhelm von Humboldt, "Theorie der Bildung des Menschen" [Theory of Bildung], in *Wilhelm von Humboldt. Werke in fünf Bänden. Vol 1: Schriften zur Anthropologie der Geschichte*, ed. Andreas Plitner and Klaus Giel (Stuttgart, Germany: J. G. Cotta'sche Buchhandlung, 1995), 236 (my translation). There are other translations of this passage, but as these did not fully capture the original meaning, I decided to translate the original German into English.

62. Luhmann, "The Child as the Medium of Education."

63. Ross W. Ashby, "Principles of the Self-Organizing System," in *Principles of Self-Organization: Transactions of the University of Illinois Symposium*, ed. Heinz Von Foerster and G. W. Zopf, Jr. (London: Pergamon Press, 1962), 255–278; Humberto R. Maturana and Francesco G. Varela, *Autopoiesis and Cognition: The Realization of the Living* (Dordrecht, Netherlands: Reidel, 1980); and Niklas Luhmann, "The Autopoiesis of Social Systems," in *Sociocybernetic Paradoxes: Observation, Control, and Evolution of Self-Steering Systems*, ed. Felix R. Geyer and Johannes van der Zouwen (London: Sage, 1986), 172–192.

64. Luhmann, "The Child as the Medium of Education."

using communication. This applies not only to the individual child, but to each adult, baby, and adolescent. Under such conditions, human being is a "black box" because no one can look directly into that box or control how it functions. Since this applies as much to introspection as to the teacher observing the child, the system remains non-transparent to itself and others. It is this non-transparency or "not-being-able-to-know"[65] that informs Luhmann's formulation of how to conceptualize "the child."[66]

New Theoretical Contexts: Non-transparency and Medium

Luhmann uses these observations on changing semantics to specify his overall theoretical agenda. Given this non-transparency — where, for instance, information from the teacher cannot be transmitted to the child — one might wonder how communication "does not get bogged down in a world created from its own errors,"[67] or how communication is possible at all. How can communication generate meaning if it cannot rely on a direct input from the psychological, physiological, or physical world? For Luhmann, the solution is to understand how the abundant possibilities of communication generate different meanings and generate form — that is, a meaning distinct from other possible meanings.

The social sciences typically address this issue in terms of two concepts: interaction[68] and norm.[69] The interactionist tradition, which focuses on the reactive sharing and creation of commonalities and identities, typically presupposes the existence of certain actors such as children and adults.[70] This interactive making of meaning is confined to spatial settings in which meanings are considered to be quite flexible and are being constantly negotiated and renegotiated. The norm-based tradition presumes that preexisting shared norms integrate society. Meanings are fixed through culture, language, history, and values as models that guide and direct social communication. This tradition acknowledges larger social formations that "exist" beyond short-lived interactions, in which childhood is a fixed social role defined by preexisting norms.

While both the interactionist and norm-based traditions meet some of the conceptual requirements to address the problems of non-transparency and generation

65. Ibid.

66. It is also the starting point for Luhmann and Schorr to ask how children's education is possible under such conditions of non-transparency. See Niklas Luhmann and Karl-Eberhard Schorr, "Wie ist Erziehung möglich?" [How Is Education Possible?], *Zeitschrift für Sozialisationsforschung und Erziehungssoziologie* 1, no. 1 (1981): 37–54. In response to that question, Luhmann goes beyond Kant's theory of education.

67. Luhmann, "The Child as the Medium of Education."

68. Herbert Blumer, "Society as Symbolic Interaction," in *Human Behavior and Social Processes*, ed. Arnold Rose (Boston: Houghton Mifflin, 1962), 179–192.

69. Talcott Parsons, "Culture and Social System Revisited," *Social Science Quarterly* 53, no. 2 (1972): 253–266.

70. See Christian Morgner, ed., *Rethinking Relations and Social Processes: J. Dewey and the Notion of "Trans-action"* (New York: Palgrave Macmillan, 2019).

of form, they depend on certain prerequisites that, despite their emphasis on the construction of childhood, reintroduce earlier conceptions through the back door.[71] To circumvent these issues, Luhmann advances a radically different proposition: *the construct of child can only be understood by considering the child as a medium*.[72] This use of the term "medium" draws on the work of the psychologist Fritz Heider, who classified media according to their higher degree of dissolubility and their capacity to fix forms through stricter coupling.[73] Forms and media comprise the same elements but as for the medium they are only loosely coupled. For instance, money can be conceptualized as a medium because its form, fixed in transactions, is dissolved immediately and so money is free to be used for any other opportunity in the hands of the recipient. All that matters is the medium's ability to make transactions possible and the transactions regenerating the medium. In the same way, air can be described as a medium because it is loosely coupled. It can transmit a sound but does not condense the sound itself: "We only hear the clock ticking because the air does not tick."[74]

In short, form emerges through a tighter coupling of the possibilities afforded by the medium, which facilitates coordination of its elements as form. To that extent, there is no medium without form, and vice versa; the openness of the medium in its abundant possibilities (its not-yet-formedness) allows for external determination through form. Luhmann applies these ideas to the construction of the child as an "externally inducible variability, which enables forms to be fixated in a medium."[75] As medium, the child's acquisition of its social meaning is therefore not based on an essentialist set of predetermined attributes but on the *malleability* of the medium arising from the idea of the loose coupling of the child's attitudes, preferences, and expectations. This malleability implies a "not yet" — for instance, that the child is not yet fully responsible for its actions[76] or is not yet an adult.[77] Thus, malleability, the possibility of impregnating forms into the medium, means that whatever behavior appears on the outside of the black box "child" is regarded as the child only witnessing, only undergoing an

71. Chris Jenks, *Childhood* (London: Routledge, 1996); and Allison James and Adrian L. James, *Constructing Childhood: Theory, Policy, and Social Practice* (New York: Palgrave Macmillan, 2004).

72. Any reader who is at all familiar with Niklas Luhmann's work may find it surprising that he does not characterize the child as a system. Interestingly, the word *system* is only occasionally applied to the child in this context, and this theoretical proposition has been largely overlooked by sociological theory and by sociologists in general.

73. Fritz Heider, "Thing and Medium," in *On Perception, Event Structure, and the Psychological Environment: Selected Papers* (New York: International Universities Press, 1959), 1–34.

74. Niklas Luhmann, "The Medium of Art," *Thesis Eleven* 18–19, no. 1 (1987): 101–113.

75. Luhmann, 7/14f1a5j, unpublished card, n.d.

76. Tamar Schapiro, "What Is a Child?," *Ethics* 109, no. 4 (1999): 715–738.

77. David F. Lancy, "'Babies Aren't Persons': A Survey of Delayed Personhood," in *Different Faces of Attachment: Cultural Variations on a Universal Human Need*, ed. Hiltrud Otto and Heidi Keller (Cambridge: Cambridge University Press, 2014), 66–109.

experience, even if in "everyone's opinion, including that of the child, the child clearly acted."[78] As Erving Goffman noted, children to some degree are "not subject to success and failure. A child can throw himself completely into the task, and fail at it, and by and large he will not be destroyed by his failure."[79] What a child "is," is what it not yet is and is therefore open for correction.[80]

Despite the issue of non-transparency as outlined above, the construct of the child as a medium accommodates some degree of orientation. However, the search for such pointers for orientation would have to take place less in the psychical or biological infrastructure, but "if one wants to know how the apparent arbitrariness of the construction is reduced, one must observe the observer and not what the observer observes."[81] This implies that the child as a medium does not preexist its construction within the family, law, religion, education, science, journalism, or economics,[82] but is continuously invoked and formulated within these contexts. The notion of perfectibility through education is a case in point, in which earlier ideas of perfection as decreed by nature are replaced by the notion of *possibility*. While possibility does not guarantee success, it implies an openness that allows education to imprint criteria in the medium.[83]

On this view, perfectibility is difficult but not impossible: "One can … mold young people, but only with the help of professionals. The concept encourages higher standards."[84] The historical semantics that has evolved in this context

78. Luhmann, "The Child as the Medium of Education."

79. Erving Goffman, "On Cooling the Mark Out: Some Aspects of Adaptation to Failure," *Psychiatry* 15, no. 4 (1952): 460.

80. In the context of juvenile violence — that is, children being violent to others — this subject is also generally addressed in this way; see Robert Hahnet et al., "Effectiveness of Universal School-Based Programs to Prevent Violent and Aggressive Behavior: A Systematic Review," *American Journal of Preventive Medicine* 33, no. 2 (2007): S114–S129.

81. Luhmann, "The Child as the Medium of Education."

82. For applications to law, family, and journalism, respectively, see Michael King and Diane King, "How the Law Defines the Special Educational Needs of Autistic Children," *Child and Family Law Quarterly* 18, no. 1 (2006): 23–42; David Klett, *Die Form des Kindes. Kind, Familie, Gesellschaftsstruktur* [The Shape of the Child: Child, Family, Social Structure] (Weilerswist, Germany: Velbrück, 2013); and Swen Körner, "In-Form durch Re-Form. Systemtheoretische Notizen zur Pädagogisierung juveniler Körperkrisen" [In-Form through Re-Form: System-Theoretical Notes on the Pedagogy of Juvenile Body Crises], *Zeitschrift für Sportsoziologie, Sportphilosophie, Sportökonomie, Sportgeschichte* 5, no. 2 (2008): 134–152.

83. In a later publication, Luhmann explains this further: "Obviously, it is about a medium that is always already limited by the child's own development; it is not about the Platonic wax tablet on which one could draw anything. It is about concrete children. But concrete children are not seen as structurally determined systems who are the way they are, at every moment of their lives, and not as something else. Even in almost hopeless cases, the educator still lives in hope that in the medium of the child the possibility still exists of choosing forms that are not as yet realized in that child." Niklas Luhmann, *Das Erziehungssystem der Gesellschaft* [The Educational System of Society] (Frankfurt, Germany: Suhrkamp, 2002), 89 (my translation).

84. Luhmann, "The Child as the Medium of Education."

affirms this malleability by acknowledging that the child's world looks different, which in turn stimulates a context-specific generation and use of the medium. This involves a contraction of the medium's possibilities into the form of "knowledge" as the form of the medium that can be treated as that which the child acquires, retains, or forgets.[85] This imparting of knowledge must be viewed as transformation rather than transmission.[86] Accordingly, one of Luhmann's cards notes that the child as a medium of education "enables the forming of forms, which means strict couplings (for instance 'knowledge') within a loosely coupled medium."[87]

Luhmann's achievement here is more than theoretical, as this perspective can also be said to take children seriously for what they are. From a structurally determinate or system perspective, the child is "complete"; in contrast, the child as a medium is as yet incomplete. In short, media of this type are "powerful" for social meaning-making because they remain open and flexible while also ensuring adequate boundaries for social interaction, thus overcoming the limitations of theoretical conceptions that rely on interaction or norms. The notion of medium also serves to ensure that meaning-making is not arbitrary but generates form through social usage, which has implications for further empirical research, which will be discussed below.

"Children Are Not Children"

Based on this theoretical contextualization, it becomes possible to address the final issue, exploring the theoretical impact on existing research on children and childhood. According to Luhmann, "children are not children";[88] that is, the child is not reducible to specific biological or cognitive capacities that make or unmake children. Instead, he contends that any such differences must be understood from the perspective of the child as a medium. This raises new research questions for sociology and education, including the following. (1) How are "children" affected by the construction of the child as a medium? (2) How is this medium implemented and deployed? (3) How does this perspective of the medium affect adults and human beings in general?

The Medium and the Child

The first of these research questions has been formulated quite explicitly by Luhmann himself. According to Luhmann, "We need to know more about what

85. Parents will know that, as soon as the not-yet possibilities of the medium begin to structure social communication, one can hardly resist offering advice, prohibiting certain behaviors, or trying to play along while offering knowledge through the "back door." Much of the literature on parenting styles has emerged in this context; see Sofie Kuppens and Eva Ceulemans, "Parenting Styles: A Closer Look at a Well-Known Concept," *Journal of Child and Family Studies* 28 (2019): 168–181.

86. Luhmann notes with interest the case of writing and reading. Literacy is not simply part of an everyday skill set but "potentializes" by enabling self-learning abilities and situational learning that can be transformed into systematic learning and backed up by scientific writing.

87. Luhmann, 7/14f1a5j1, unpublished card, n.d.

88. Luhmann, "The Child as the Medium of Education."

happens in consciousness [of the 'child'] when it registers that it is being treated as a child (or, in any event, as something other than an adult)."[89] While science has well-established methods and agencies for assessing technologies and their effects, there are no equivalent provisions in the social sciences. For instance, no agency has ever assessed whether the invention of the nation-state was more or less beneficial or dangerous than the discovery of nuclear energy. Similarly, there has been no assessment of the consequences of inventing the idea of the individual or individuality as compared to the invention of gene manipulation techniques.

In the same way, there has been no evaluation of the significance of treating "children" as children. This presumption remains unquestioned and is discussed only in the case of so-called "departures from the norm" such as children with autism, "deprived" children, or children living in violent households. As a consequence, such foundational questions continue to be overlooked. However, in the absence of such research, the following discussion will need to reframe existing empirical evidence to take account of the child as a medium in order to point to new avenues for empirical research and educational theories.

The construct of the child as a medium rests on the idea of malleability — the child as only experiencing the world (but not responsible for its actions), as not yet complete, as the subject of organized educational intervention. While the previous discussion of the medium focused on use of the medium for social communication, it also invites us to ask how "children" are affected by it. Perhaps the most palpable impact on the medium as described is the burden of uncertainty; that is, the child as a medium experiences the world as contingent because the acquisition of knowledge is in pursuit of transformation that always leads to new demands. One has barely learned to eat with a knife and fork and now must learn not to talk and eat at the same time.

Early psychologists emphasized the need for children to cope with the uncertainty caused by events in their environment, such as school transition, parental divorce, hospitalization of the child, or the death of a family member, as well as developmental issues, such as changing hormone levels.[90] Those researchers implicitly assumed that the child is a fixed entity and that change is an external event. In contrast, the perspective elaborated here views uncertainty not as an exceptional event but as part and parcel of the meaning-making of children. Indeed, stressed parents may be surprised to learn that schoolchildren frequently experience high levels of "stress" in the sense that they must constantly acquire new knowledge and skills.[91] Reactions such as outbursts of crying are very common

89. Ibid.

90. Davis S. Palermo, ed., *Coping with Uncertainty: Behavioral and Developmental Perspectives* (Hillsdale: Lawrence Erlbaum Associates, 1989).

91. Norman Garmezy and Michael Rutter, eds., *Stress, Coping, and Development in Children* (New York: McGraw Hill, 1983); and Megan Gunnar, Denny Marvinney, Jil Isensee, and Robert O. Fisch, "Coping with Uncertainty: New Models of the Relations between Hormonal, Behavioral, and Cognitive Processes," in *Coping with Uncertainty*, ed. Palermo, 101–129.

during childhood, and there are no significant differences between boys and girls in this regard.[92]

Importantly, this ongoing learning is not a linear process, but most learning involves unlearning and relearning. For instance, regulating the public display of emotion[93] is not simply a new skill but requires significant relearning to understand how successful impression management helps to avoid embarrassment during interaction rather than being seen to be "acting like a baby."[94] This can lead to inhibiting behaviors such as shyness or avoiding eye contact.[95] This form of impression management ensures that the uncertainty of interacting with others and its potential for embarrassment is reduced. A number of longitudinal studies have shown that this constant educative "stress" does not generally make children phobic. Despite high levels of uncertainty, only a few seem to carry the effects into adult life.[96]

In the literature, these issues are addressed under the concept of resilience.[97] While this research focuses primarily on exceptional events (risk factors) or adverse experiences and protective factors like good parenting, the child as a medium also seems relevant. The meaning of the child as a medium is the theoretical formula that describes this contingency and helps to reformulate the notion of resilience. In modern societies, this experience of contingency is a key issue, not just because it shapes the learning process, "but because it enables the child to develop a motive which is the basis for all future learning. The main characteristic of this motive is the infant's belief that his actions affect his environment."[98]

92. Francine C. Jellesma and A. J. J. M. Vingerhoets, "Crying in Middle Childhood: A Report on Gender Differences," *Sex Roles* 67, no. 7/8 (2012): 412–421; and Debra M. Zeifman, "Developmental Aspects of Crying: Infancy and Beyond Childhood," in *Adult Crying: A Biopsychosocial Approach*, ed. A. J. J. M. Vingerhoets and Randolph R. Cornelius (London: Routledge, 2012), 37–53.

93. Erving Goffman, "On Face-Work," *Psychiatry* 18, no. 3 (1995): 213–231.

94. Carolyn Saarni, "Children's Understanding of Display Rules for Expressive Behavior," *Developmental Psychology* 15, no. 4 (1979): 424–429; and Jacqueline J. Carroll and Margaret S. Steward, "The Role of Cognitive Development in Children's Understanding of Their Own Feelings," *Child Development* 55, no. 4 (1984): 1486–1492.

95. Cynthia Garcia-Coll, Jerome Kagan, and J. Steven Reznick, "Behavioral Inhibition in Young Children," *Child Development* 55, no. 3 (1984): 1005–1019; and Jerome Kagan, J. Steven Reznick, and Nancy Snidman, "The Physiology and Psychology of Behavioral Inhibition in Children," *Child Development* 58, no. 6 (1987): 1459–1473.

96. Don P. Morris, Eleanor Soroker, and Genette Burruss, "Follow-up Studies of Shy, Withdrawn Children I: Evaluation of Later Adjustment," *American Journal of Orthopsychiatry* 24, no. 4 (1954): 743–754; and John C. Coolidge, Richard B. Brodie, and Barbara Feeney, "A Ten-Year Follow-Up Study of 66 School Phobic Children," *American Journal of Orthopsychiatry* 34, no. 4 (1964): 675–684.

97. Marc A. Zimmerman, "Resiliency Theory: A Strengths-Based Approach to Research and Practice for Adolescent Health," *Health Education & Behavior* 40, no. 4 (2013): 381–383.

98. Michael Lewis and Susan Goldberg, "Perceptual-Cognitive Development in Infancy: A Generalized Expectancy Model as a Function of the Mother-Infant Interaction," *Merrill–Palmer Quarterly* 15, no. 1 (1969): 82.

The contingency of possible actions and alternative outcomes requires us to select certain actions if action is to be possible at all.[99] In this way, the mental capacities of the child develop preferences and attribution strategies that ultimately distinguish intentional behaviors from environmental demands.[100] As others have noted,[101] this internal differentiation of judgments, motifs, and scripts reduces external complexity but also introduces new forms of cognitive complexity. While this double movement is inherently unstable, it enables the child to adapt to diverse social settings and expectations. In particular, being able to attribute actions to oneself is a basic structure that integrates well with the demands of self-development as a person. While this might suggest a smooth transition from the medium of childhood to the medium of adulthood, the child's strong sense of not-yet protects them from failure — but this is increasingly tested (internally and externally) during adolescence.

The medium of the child interchanges frequently with the medium of the adult, and the research on adolescent "turmoil" confirms that this interchange is far from being a smooth ride.[102] There is also evidence that this interchange is more frequently an issue for girls, who must assume new leadership roles in the household and family while boys continue to pursue existing activities like sports and gaming and therefore enjoy a slightly longer childhood.[103]

Finally, the issue of cognitive complexity seems a promising area for future research on how identity is constructed through the child as a medium. While there is an ample body of research on children,[104] very little is known about how children see children. To address this question, existing research on teaching philosophy to and with children could be repurposed[105] to explore how children see children and to what extent the concept of the child is a self-defined "negative identity" formed

99. Jerome S. Bruner, *A Study of Thinking* (New York: Wiley, 1956).

100. Kenneth Burke, *A Grammar of Motives* (Cleveland, OH: World Publishing, 1962).

101. See especially James Bieri, "Cognitive Complexity and Personality Development," in *Experience Structure & Adaptability*, ed. O. J. Harvey (Berlin, Germany: Springer, 1966), 13–37.

102. Michael Rutter, Philip Graham, O. F. D Chadwick, and W. Yule, "Adolescent Turmoil: Fact or Fiction?," *Journal of Child Psychology and Psychiatry* 17, no. 1 (1976): 35–56; and Roberta G. Simmons, Richard Burgeson, Steven Carlton-Ford, and Dale A. Blyth, "Reaction to the Cumulation of Change in Early Adolescence," *Child Development* 58, no. 5 (1981): 1220–1234.

103. Anne C. Petersen, "The Nature of Biological-Psychological Interactions: The Sample Case of Early Adolescence," in *Biological-Psychosocial Interactions in Early Adolescence*, ed. Richard Lerner and Terryl T. Foch (Hillsdale, NJ: Lawrence Erlbaum, 1987), 35–61.

104. See Barbara Stanley and Joan E. Sieber, *Social Research on Children and Adolescents* (Newbury Park, CA: Sage, 1992).

105. Claire Cassidy, Sarah-Jane Conrad, and Maria José de Figueiroa-Rego, "Research with Children: A Philosophical, Rights-Based Approach," *International Journal of Research & Method in Education* 43, no. 1 (2020): 38–52; and Claire Cassidy et al., "Being Children: Children's Voices on Childhood," *International Journal of Children's Rights* 25, nos. 3/4 (2017): 698–715.

largely by what one is not or is not yet. This would include identifying as a child because one lacks certain skills (e.g., driving) or because one does not do things that non-children do (e.g., following rules while adults can do as they please); in particular, "learning appears to be the exclusive privilege of children."[106]

The Medium in Interaction, Organization, and Society

The second research question addresses how the medium is implemented and deployed — for instance, through interaction as opposed to organizations or systems (economics, politics, science, sport, education). Studies of the interactions between teachers and pupils or between parents and children typically look at the medium in terms of the adult — their parenting style or their pedagogic approach — but rarely ask how children use this medium. To redress this imbalance, we might draw on ethnomethodology and conversation analysis that looks at the issue of "doing being."[107] According to Harvey Sacks, for example, "doing being ordinary" implies that ordinariness is socially constructed rather than a state that simply exists; in other words, one must act in a certain way to appear ordinary. There is no equivalent research on "doing being children," but some existing studies may help us to understand what this might look like.

One such line of inquiry concerns how children access the medium in situations of error. A mistake typically elicits a wealth of reactions such as repair, redemption, or detailed explanation.[108] For the child, however, the medium itself can become a source of social justification. According to Richard Ely and Jean Berko Gleason,[109] after making a mistake and being lectured by an adult or teacher, a child might respond that they could not have avoided the mistake because they are still a child, so using the not-yet as a social explanation in itself.

Doing being may also involve various forms of "self-infantilization." While typically applied to adults, this is also commonly observed in children. For instance, parents might wonder why their child is being praised at school when their behavior in the home is less cooperative. As reported by Rosa Korpela, Salla Kurhila, and Melisa Stevanovic,[110] by "doing being younger" in a school setting — modulating their voice, lowering their shoulders, or appearing shy — the child may be shielded from punishment for breaking the rules or forgetting what they

106. Cassidy et al., "Being Children," 708.

107. Harvey Sacks, "On Doing 'Being Ordinary'," in *Structures of Social Action, Studies in Emotion and Social Interaction*, ed. J. Maxwell Atkinson (Cambridge: Cambridge University Press, 1985), 413–429.

108. Paul Drew, "Adults' Corrections of Children's Mistakes: A Response to Wells and Montgoaulmery," in *Adult-Child Conversation: Studies in Structure and Process*, ed. Peter French and Margaret MacLure (New York: St Martin's Press, 1981), 244–267.

109. Richard Ely and Jean Berko Gleason, "I'm Sorry I Said That: Apologies in Young Children's Discourse," *Journal of Child Language* 33, no. 3 (2006): 599–620.

110. Rosa Korpela, Salla Kurhila and Melisa Stevanovic, "Apologizing in Elementary School Peer Conflict Mediation," *Research on Language and Social Interaction* 55, no. 1 (2022): 1–17.

have learned. Making oneself "smaller" in this way is essentially an enactment of "not there yet."

Finally, there is some evidence that on certain occasions children invent stories or avoid telling their parents about mistakes or problems because they know that the medium of the child requires parents to care for them.[111] This engagement with the medium protects both parents and children from ongoing demands and contingencies. These instances highlight the elaborate links between interactions and the medium and how the complexity of the medium is used during communication for turn-taking, repair, and flow.

Among organizations that focus on children (e.g., toy stores, charities, children's rights organizations, protection agencies, children's hospitals), schools remain central from the perspective of membership. Studying the child as a medium reveals the dynamics of loose coupling (child as a medium) and strict coupling (knowledge). The focus on organizations enables us to take this further. In this context, it can be asked, How can it be ensured that the imprinting of form, the knowledge being offered, will be a premise not only for teachers but for children as well? Why should a child learn this and not something else, given the abundance of what the world has to offer? Organizational theory offers two answers: the notion of why-this-and-not-something-else is explained through hierarchy, and the notion of why the offered possibilities should be accepted is explained through the selective advantages of membership in an organization.[112] As Luhmann argues, organizations enable the medium to gain form, because they respecify the medium. For instance, hierarchies order competencies and authority in terms of timetables, learning content, and curriculum development:

> When a teacher arrives in the morning on time for their lessons, like the teacher's colleagues, they will follow the timetable of the day. … As such, no teacher needs to stray through the school's hallways to try to find acceptance for their ideas. … The good intention to educate gains form with the organization's help, and to that extent, it is possible to recognize and potentially correct things when they go wrong.[113]

The organization also ensures that good educational intentions are arranged to suit different classes, year groups, and requirements; most important, perhaps, it ensures that class inputs can be repeated in an organized way. Much of the existing research looks at the implications of hierarchy and membership for teachers in terms of career progression,[114] bureaucratization and its impact on

111. See Kathleen E. Montgomery, Kathleen J. Sawin, and Verna Hendricks-Ferguson, "Communication During Palliative Care and End of Life," *Cancer Nursing* 40, no. 2 (2017): E47–E57.

112. For reference, see two classics: Chester Barnard, *The Functions of the Executive* (Cambridge, Harvard University Press, 1938); and James G. March and Herbert A. Simon, *Organizations* (New York: John Wiley and Sons, 1958).

113. Luhmann, *Das Erziehungssystem der Gesellschaft*, 160 (my translation).

114. Dan C. Lortie, *Schoolteacher: A Sociological Study* (Chicago: Chicago University Press, 1975).

teacher morale,[115] or the impact of changing educational demands on teachers themselves.[116]

Children's membership in the school remains a neglected issue, but there is some research exploring why children go to school.[117] Overall, it seems that by the time a child enters school, the child as a medium has already been fully accepted, as a majority of children in these studies report that they must (but also need) to go to school because they are not yet where they need to be and need the school to help them. To that extent, school membership is an almost unquestioned source of motivation.[118]

The idea of "not yet there" is reinforced by the fact that, for most children, school is a social rather than an individual experience, offering "structured" access to other children. These social "co-equals" serve as comparative indicators of malleability in terms of friendly competition and peer motivation.[119] The school structure also means that children progress from one year to the next, and from primary to secondary level, again driving progression and completion.[120] Further theoretical work is needed to clarify the relationship between medium and organization and how the child as a medium is transformed by the education system. Current conceptual work on the relationship between children and society typically takes one of two directions. The historical approach explores changes in the idea or semantics of childhood during a society's development over time, while the sociological approach focuses on children's place within the society's class structure.[121]

115. Valerie E. Lee, Robert F. Dedrick, and Julia B. Smith, "The Effect of the Social Organization of Schools on Teachers' Efficacy and Satisfaction," *Sociology of Education* 64, no. 3 (1991): 190–208.

116. Jaana Seikkula-Leino, Elena Ruskovaara, Heikki Hannula, and Tuija Saarivirta, "Facing the Changing Demands of Europe: Integrating Entrepreneurship Education in Finnish Teacher Training Curricula," *European Educational Research Journal* 11, no. 3 (2012): 382–399.

117. Cedric Cullingford, *The Inner World of the School: Children's Ideas about School* (London: Cassell Educational, 1991); Liz Brooker, "Why Do Children Go to School? Consulting Children in the Reception Class," *Early Years* 17, no. 1 (1996): 12–16; Ann Sherman, "Five-Year-Olds' Perceptions of Why We Go to School," *Children & Society* 11, no. 2 (2006): 117–127; and Roslyn Coleborne, "Listening to Boys in Kindergarten Talking about School" (unpublished PhD diss., University of Wollongong, 2009).

118. John Newson and Elizabeth Newson, *Perspectives on School at Seven Years Old* (London: Allen and Unwin, 1977).

119. See Stuart Reifel, "Children's Thinking about Their Early Education Experiences," *Theory Into Practice* 27, no. 1 (1988): 62–66; and William Maxwell, "The Nature of Friendship in the Primary School," in *The Social Psychology of the Primary School*, ed. Colin Rogers and Peter Kutnick (London: Routledge, 1990), 169–189.

120. Pia Christensen and Allison James, "What Are Schools For? The Temporal Experience of Children's Learning in Northern England," in *Conceptualizing Child-Adult Relations*, ed. Leena Alanen and Berry Mayall (London: Routledge, 2001), 70–85.

121. See André Turmel, *A Historical Sociology of Childhood: Developmental Thinking, Categorization, and Graphic Visualization* (Cambridge: Cambridge University Press, 2008).

Following Ariès's history of childhood in the 1960s, a growing body of research has examined social constructs of the child and their historical significance.[122] Some of these studies are detailed historical cases of specific regions or periods that are not primarily interested in constructions of childhood but draw on contemporary understandings to describe children's historical situation. Other studies adopt a longer-term perspective to trace changing constructions of childhood in relation to specific historical circumstances or underlying trends, and two of these serve to illustrate typical narrative strategies. Lloyd DeMause used the notion of *progress* to trace the history of childhood through the relationships between children and parents across several epochs.[123] The study contrasts relationships of support and care with examples of ambivalence to the needs of children and the acceptance of infanticide in antiquity.

The work of Peter Gstettner and Gérard Mendel investigated the relationship between children and educational institutions from the perspective of social control.[124] Based on rich historical sources, both explored the idea of the child as constructed through the invention of discipline-based educational institutions. Addressing the treatment of the child's body at different historical stages, both focused on the pitfalls of education as comprehensive control. Luhmann is critical of how this form of conceptual history purports to be "objective" research "without any theoretical guidelines."[125] Changing meanings are explained on the basis of inductive generalization from historical circumstances without theoretical support, linking topics like democracy, temporalization, ideology, and politicization by reference to the French Revolution, modern nation-states, and bourgeois society. However, the relationship between the transformation of ideas and profound societal change can only be presumed.

122. For an overview, see Paula S. Fass, ed., *The Routledge History of Childhood in the Western World* (London: Routledge, 2013).

123. Lloyd DeMause, *The History of Childhood* (New York: Harper and Row, 1974).

124. Peter Gstettner, *Die Eroberung des Kindes durch die Wissenschaft. Aus der Geschichte der Disziplinierung* [The Conquest of the Child by Science: From the History of Disciplining] (Reinbek, Germany: Rowohlt, 1981); and Gérard Mendel, *Pour décoloniser l'enfant: Sociopsychanalyse de l'autorité* [To Decolonize the Child: Sociopsychoanalysis of Authority] (Paris: Payot, 1971).

125. Niklas Luhmann, "Social Structure and Semantic Tradition," in *The Making of Meaning*, ed. Morgner, 32.

While acknowledging the progress made by conceptual history, Luhmann contends that a more detailed understanding of these interdependencies poses challenges for sociology. Most social scientists address such changes from the perspective of class-based society or the history of class.[126] Often based on statistical evidence, research of this type views childhood in terms of inequities within certain function systems — for instance, differences in economic mobility, health-related mortality or obesity, educational attainment, or exam results. However, investigating the evolution of function systems and reproduction of the medium of the child raises very different but equally profound questions that are not adequately addressed in Marxist theories or in the works of Karl Mannheim or Talcott Parsons. Luhmann proposes that the semantics of the child and the social structure are embedded in the general formation of meaning and should not be conceptualized as separate entities. This understanding of changes in these semantics is to be seen in correlation to a society's complexity, which is determined by its form of primary differentiation.[127] For Luhmann, complexity is an intervening variable that mediates between structural change and semantic transformation. Social differentiation can take different forms, producing differing internal orders and levels of complexity. Luhmann identifies four primary forms of social differentiation: (1) segmentary, (2) center–periphery, (3) stratified, and (4) functional. Based on these conceptual considerations of meaning, semantics, and social differentiation, Luhmann has developed a guiding framework that can help us to understand semantic changes in the medium of the child.[128]

The Medium of the Child and Human Being

In light of the relationship between the child as a medium and society, we can now consider the third research question, how society employs this medium to shape the gaining of form and how the medium influences the forms that can be generated.

The most notorious attempt to engage seriously with this issue is Neil Postman's *The Disappearance of Childhood*.[129] The disappearance to which he refers is not the declining birth rate but the dissolving medium of the child. The key boundary mechanism that differentiates between child and adult media is access

126. Raewyn Connell, "Class Consciousness in Childhood," *Australian and New Zealand Journal of Sociology* 6, no. 2 (1970): 87–99; Rodolph Leslie Schnell, "Childhood as Ideology: A Reinterpretation of the Common School," *British Journal of Educational Studies* 27, no. 1 (1979): 7–28; Jeremy Seabrook, *Working-Class Childhood* (Oxfordshire, UK: Littlehampton Book Services, 1982); Robert McIntosh, "Constructing the Child: New Approaches to the History of Childhood in Canada," *Acadiensis* 28, no. 2 (1999): 126–140; Bryan Ganaway, *Toys, Consumption, and Middle-Class Childhood in Imperial Germany, 1871–1918* (New York: Peter Lang, 2009); and Sultana Ali Norozi and Torill Moen, "Childhood as a Social Construction," *Journal of Educational and Social Research* 6, no. 2 (2016): 75, https://scholar.archive.org/work/v2ealbwo5zbfnhtawawshyftki.

127. Luhmann, "Social Structure and Semantic Tradition," in *The Making of Meaning*.

128. See, for example, Klett, *Die Form des Kindes*.

129. Neil Postman, *The Disappearance of Childhood* (New York: Vintage Books, 1994).

to written communication. Europe in the Middle Ages was largely illiterate, and the dominant channel of communication was oral. Although books existed, they were used mainly to support oral communication. This state of orality meant that children and adults accessed the world of knowledge within the same social and cultural world, and knowledge was based on what could be directly observed and communicated. Their shared immersion in a non-literate world meant there was no need to sharply distinguish between child and adult because their knowledge was broadly the same, and understanding required no formal training.

For Postman, this situation was radically reversed with the spread of literacy and of reading as a daily practice. Access to reading material of every kind — from maps and charts to contracts, deeds, and dime novels — created an abstract world of knowledge beyond the directly observable and a consequent split between those who could access this world and those who could not. This in turn led to the invention of the child, who could become an adult by learning to read. In other words, a child was someone who was not yet an adult. Although the ability to read became the norm for many children with the advent of mass schooling from the nineteenth century onward, the world of written communication had already become so complex that it was effectively controlled by adults: "An eight-year-old is not expected to read *The New York Times*, let alone Plato's *Republic*."[130]

However, the invention of mass-produced images, especially television and the internet, marked a further turning point. Although visual media may include textual elements, the predominant modality is watching rather than reading: "In learning to interpret the meaning of images, we do not require lessons in grammar or spelling or logic or vocabulary."[131] As television and online content again reduce or eliminate differential access to cultural knowledge, the six-year-old and the sixty-year-old are again more or less equally accommodated, and the exclusivity that Postman identified as the key evolutionary trigger for differentiating child and adult is no longer relevant. Children no longer need adults to teach them about the world, and adults therefore lose much of their authority as keepers of knowledge. As the difference between children and adults again recedes, Postman argues that childhood implodes or disappears.

However, from the perspective of the child as a medium an opposing view can be formulated, where the medium is not imploding, but is extended, stretched beyond its usual social application. As in Postman's account, the modern media system renders each viewer's life comparable to multiple others. From news coverage to dramatic fiction to "autobiographical" accounts of other lives on social

130. Ibid., 74.

131. Ibid., 75.

media,[132] different choices lead to different lifestyles. For better or worse, this creates a sense of contingency and an open future.

In this environment, learning and knowledge become a form of life design, promising new and alternative possibilities for accelerating one's career, improving one's health, or learning how to find the right life partner. Equally, this means that malleability is no longer a defining characteristic of the child, and the medium's contingency of "not-yet" expands in all directions.[133] From music and mathematics lessons for unborn babies to school readiness skills for infants and toddlers, the medium of the child now extends beyond school and university into lifelong learning. Even in old age, it is no longer enough to dispense one's accumulated wisdom to the young, and further education after retirement (such as the University of the Third Age) has increasingly been normalized.

This expansion is also apparent in other areas of social life, including care provision, training, consultancy, counselling, and coaching. It is perhaps unsurprising that under such circumstances the medium is showing tendencies of an inflationary usage; the malleability of the medium has been overextended in this way as an all-purpose solution for every social issue. This is likely to lead to future disappointment. It extends the boundaries of the medium without adequate back-up. There is no tendency to consider adults as grown children, or children as small adults. In order to rectify this tendency, we see a reformulation of society's most general medium: human being.[134] According to Peter Fuchs, the medium of the human being reifies society's invisibility as the enabler of possibilities. Somehow, something can always be done; in the drastic eventuality that humankind dies out (for instance, due to the impact of climate change), society will also come to an end.

However, Fuchs goes on to argue that this reification is becoming increasingly contingent — not because the world is becoming more complex or diverse but because, as argued above, the modern system of media communication increases opportunities for comparative observation. Something that happened in the past is observed in order to discern the alternatives, and this becomes a daily practice, even for mundane tasks like shopping, raising children, or making a living. As the reification of society as the enabler of possibilities becomes increasingly problematic, one begins to see why the medium of the child is in greater demand for its evolutionary advantages. The increase in comparative observation means that the diminishing reification of human being as medium is temporally constrained by

132. Renée A. Botta, "The Mirror of Television: A Comparison of Black and White Adolescents' Body Image," *Journal of Communication* 50, no. 3 (2000): 144–159; Erin A. Vogel, Jason P. Rose, Lindsay R. Roberts, and Katheryn Eckles, "Social Comparison, Social Media, and Self-Esteem," *Psychology of Popular Media Culture* 3, no. 4 (2014): 206–222; and Philippe Verduyn, Nino Gugushvili, Karlijn Massar, Karin Täht, and Ethan Kross, "Social Comparison on Social Networking Sites," *Current Opinion in Psychology* 36 (2020): 32–37.

133. Luhmann, "Education: Forming the Life Course."

134. See Peter Fuchs, "Der Mensch – das Medium der Gesellschaft?" [The Human Being – The Medium of Society?], in *Der Mensch – Das Medium der Gesellschaft?*, ed. Fuchs and Göbel, 15–39.

the malleability of the not-yet. While this makes it more challenging to envisage what can be done, it offers hope that corrections can be made to restore the medium of the human being.

Conclusion

Taking his conception of the child as a medium of education as a point of departure, this paper discusses a number of misconceptions regarding the sociology of Niklas Luhmann. In particular, a number of established authors have claimed that Luhmann ignores the human being; by way of response, the evidence assembled here shows that Luhmann has in fact written extensively on human being throughout his career. Although referring to the sociology of education, his work on the child as a medium forms a key part of those writings. However, despite growing interest in Luhmann's ideas about education, sociologists and education theorists have overlooked his theoretical constructs of form and medium.

The present paper explores what Luhmann meant by these constructs and discusses their implications for the construct of *child*, relying on the translated essay published in this symposium. To shed further light on that work, I also drew on archival material from Luhmann's card-box reference system. This helped to contextualize his ideas of form and medium and clarified some of his methodological strategies.

In particular, by combining a historical-comparative approach with newer developments in systems theory, Luhmann was able to propose a radically different formulation of the issues in question. He rejected the reduction of the child to an assumed set of innate qualities, but he took children very seriously for what they are and who they are. The explanation that education contributes to children's participation in society is questioned from a perspective that considers the impossibility of determining a child's mind, but uses this non-transparency as a possibility for the formation of the education system. He thus showed that the meaning-making of education derives from the formation of a medium that balances constraint and flexibility, which makes education possible. In other words, the medium of the child is defined by its malleability, which allows the medium to gain form. This constructs the child as not yet fully formed and not yet responsible for their actions. However, the gaining of form cannot be left to chance but depends on educational intervention.

The notion that education has to do with children is unsurprising. However, by making a number of relatively minor theoretical changes, Luhmann reimagines something commonplace and self-evident in a radically different way. Having opened this theoretical Pandora's box, it becomes clear how this novel perspective could inform further theoretical development, supported by re-analysis of existing research in other fields, including developmental psychology, education, philosophy, and sociology.

Contrary to Postman's diagnosis that childhood is in decline, this paper concludes that the radical expansion of the medium of the child makes the management of educational boundaries more challenging. This in turn affects

society at large by transforming the more general medium of human being. On that basis, it seems clear that far from neglecting the human, Luhmann's theory takes human being very seriously and acknowledges its key role as a form-giving medium in addressing the challenges faced by contemporary society.