

TOWARDS HOLISTIC POSITIVISM IN CURRENT SOCIOLOGY

Barbara Hanson

YORK UNIVERSITY, TORONTO

A holistic view makes it possible to conceive of an expansive, humanist, diverse, and constructivist epistemology within the bounds of what has come to be called positivism in current practices in Sociology. To build this argument I look at roots of our practices in Aristotelean dialectic thought, its fusion with Medieval Christian theology, and its connection to mechanistic world views. Aristotle wrote humans into knowledge legitimation in addition to deity and developed dialectic as a method of inquiry. This was written into Christian Church teachings and practices. It remains active in form today through the long reach of schools steeped in Western/European thought and mechanism. In sociology it has manifested as a positivism/constructivism opposition. However, it can be seen more expansively to capture holistic views. The advantage lies in allowing for positivist views, constructivist views, and a wider range of current world cultural interpretations.

This paper makes a connection between ancient philosophy, Medieval Christianity, and current sociological research to argue for a holistic take on positivism that is inclusive of constructivism. Western scholarly thought emerged from Medieval Christian domination of territories that later became Europe (TLE). This deployed religiously articulated dialectics like good/evil, sinner/saint, God/Satan. It became fused with mechanism in physics by Isaac Newton and in sociology by Comte and Durkheim through oppositions like objective/subjective.

Holism is about seeing wholes that emerge in interrelated parts. This transcends mechanistic focus on studying phenomena by taking them apart into components. Seeing wholes makes us aware of the strictures of mechanism that underlay opposition based constructs for framing research and how they arose in ancient and Medieval times. This can be used to question and expand research epistemology including positivism.

There has been considerable debate about the issue of positivism

with some proclaiming its death and others connecting it to a broader sense of empiricism (Phillips 1983). Likewise there has been debate about binary oppositions, objectivity, scientific meanings, and their role in creating marginal locations (Jagger 2015, Haraway 1988). Critics highlight the way positivism is associated with search for a single reality and something imposed through colonialism (Braun 2014).

A holistic view can add a layer to this thinking that by adding ancient and Medieval times (384 BC- 1400 AD). Positivism can be used as a focus point for more inclusive epistemology both intellectually and politically if we remember to look at religion and holistic form (Hanson 2014).

ROOTS OF SCHOLARLY METHODS

Looking back to roots of Western scholarly thinking led me to try to reconcile Aristotle being used both as the ancient foundation for a positivist science and a source of the principle that the whole is greater than the sum of its parts – the beginning point for holism and systems theory (Corning 2014). This led me to reread large portions of theories I had considered earlier in my career in a political context in sociology that focusses on critiquing the development of Western/European practice—notably modernity, colonialism, and racialization.

My acquaintance with art and its history led me to see a continuous imagery from ancient Aristotlean times to modernity and colonialism in Renaissance and later Western/European histories. I was constantly confronted with the dominance of religion in questions of legitimation of knowledge and how many key issues about current scholarship can be better understood by including medieval religious histories.

When I allowed myself to consider religion the course of development of methods made sense. When you follow the path of Aristotle's ideas from their ancient origin to modernity and sociology you can see how much of what is seen as logic, and objectivity is about making a place for human individual capabilities and group processes in making, legitimating, and maintaining knowledge—pillars of constructivism.

Sociology has put out a particular model of positivism and science via Comte and Durkheim that I find unnecessary. Possible, but not necessary. When we look back at Aristotle and the promotion of his ideas by the medieval Christian church its possible to see that knowledge legitimation via science can be humanist, subjectivist, holistic, and relative. Indeed its possible to argue that objectivity is not possible without subjectivity– allowance for human symbol making and group process (Hanson 2015).

Religious history is deeply intertwined with intellectual history- notably with the birth of scholasticism in late medieval times in territories that later became Europe (TLE). This history is worth examining to understand how ancient modes of scholarly practice persist to this day in form and can be seen in ideas such as dialectic. This leads to an argument that some sociological portrayals of positivism don't sufficiently embrace humanism, subjectivities, holism, or relativism.

This suggests seeing that many of our critiques are bound up in habits for doing scholarship that can be traced to religion bound scholasticism in late Medieval times. That religion and state later separated in what came to be known as Western/European thought should not preclude seeing how modes of Medieval Christian practice have persisted to this day despite this separation.

In historical context empiricism was about adding human ability to observe and collectively legitimate knowledge to knowledge that was received from deity. Aristotle wrote in times of deep mysticism. His teacher Plato focussed on ideas as something that previously existing in deity. Aristotle accepted this but also allowed for humans to use their capabilities to discover these ideas. His ideas of phantasma (human ability to make symbols) and endoxa (group validation) set out a process whereby humans create, maintain, and socially constructed knowledges in contexts (Smith 1999; Bolton 1999; Renon 1998 Modrak 1987; Taylor 1955; Cook and Herzman 1983).

So deity and humans could be co-participant in the process of doing knowledge. This relationship is summed up in the saying "[T]he Bible tells us how to go to heaven, but not how the heavens go" (Olson 2004, p.2). This line of thinking is echoed in the work of multiple social theorists pointing out that knowledge, truth, or fact is dependent on the human social contexts from which it is

derived (Cadenas 2019; Rousseau 2014).

Aristotle's model of the world has an all powerful being, the Prime Mover, who controls from the edge. This idea was transported into medieval Christianity as justification for a single god as a means of quelling threats to church authority coming from secular markets, healing, arts, and politics. His ideas about knowledge making, including dialectic, came along as well and dominated church parlance.

In later medieval times this underpinned the rise of scholasticism that was often focussed on proving the existence of god. So academic practice in the territories that later became Europe was infused with Christian monotheistic theology. This imprint remains to this day even in the face of formal separation of church and state and growing secularization (Litonjua, 2016; Gamez and Clark 2015). It shows up in basic orientation toward how we approach research questions. In current scholarly practice we may not look for causes in deity as in God or Satan caused the 2008 US stock mark crash or Covid 19 pandemic. But we look for cause in the same way early scholasticism did – with dialectic mechanistic opposites. This has been honed for a millenium and expanded via focus on mechanism by scholars such as Issac Newton and Bertrand Russell (Corning 2014).

Its worth noting here that early scholastic practice in medieval times in territories that later became Europe was infused with some cultural inclusiveness through a relation with Arabic cultures. Many of Aristotle's key teachings/philosophies were lost in the territories that later became Europe. But these philosophies were in use in Arabic language cultures at the time scholasticism developed. This meant that multiple parts of Aristotle's work had to be translated from Arabic into Latin before they could be used in the territories that later became Europe (Martin 1996; Price 1992; Cook and Herzman 1983).

This intertwined history is seen in the emergence of currently popular mathematical numerals 0123456789. These are Hindu Arabic symbols that came into common use in Western/European cultures upon realization of their superiority for dealing with decimal applications. They replaced Roman Numerals like I, II, III, IV, V, VI, VII, VIII, IX, X in many uses. But Roman numerals still persist in certain contexts like subsection numbering in legal

documents and books.

More recently binary - zero or one, off or on—numerals are the language of computers. This has reshaped how information is created, maintained, and used. Currently there is increasing use of letters to stand where numbers have in the past because of huge demands for communication contacts. People have more contacts than they did in the past— stretching the capacity of a 10 value numbering system. Web, #HASHTAG, and e-mail contacts can be longer than phone numbers and there can be more of them because there are more letters than numerals. All these examples suggest how day to day intellectual practices such as commonly used symbols are bound up in histories of cultures, places, languages, and times. Along with the development and dispersion of numbering systems came particular ways to frame issues like opposites/antinomies.

SOCIOLOGICAL ANTINOMYSOCIOLOGICAL ANTINOMY

Sociology operates within these contexts. So it may bear a religious imprint at a level of form that underlays how, therefore, what we do. This shows up in reliance on mechanism that may be implicit, informal, habitual. We may benefit from paying attention to this form, how it proliferated, and where it remains.

A key manifestation is the form of opposition itself. For example positivism and constructivism might be set out as opposites (Berkovich 2018, Rousseau 2014). I did this myself for years when teaching methods courses as I tried to help students understand the difference between qualitative and quantitative. I gave students charts to fill in with key oppositions. I lectured about the heros of each tradition, qualitative starting with the Chicago school, quantitative with European classical theory especially Comte and Durkheim.

I came to group these ideas under “A Way” for constructivism and “The Way” for positivism—something I came up with early in my career when I was asked on short notice to give a talk on sociological methods in a Women’s Studies course. But as I repeated these ideas over many years and became more interested in deep histories of scholarships I had more and more trouble justifying this antinomy. I wrote about this by arguing that qualitative and quantitative methods have merged in the day to day practices of

sociology (Hanson, 2008).

I came to understand why the opposition arose and was disappearing in practice when I looked back to Medieval and ancient times in territories that formed into Europe from the 1400s onward. The ancient origins of what may now be called positivism were humanist and constructivist in Aristotelean empiricism. Humans use their senses, imagination, and group processes for legitimating knowledge to discover how the world works rather than relying on deistic explanations alone.

This got turned into positivism in sociology in part via Durkheim's analysis of research practice (1964) and his exemplar in his work on suicide (1951). He saw suicide rates as indicators of the relative level of social cohesion in a community. This method became about separating humans from the phenomena they study and being value free in an attempt to understand social experience using the same methods as the natural and physical sciences. Religion became something studied as a characteristic of social experience that led to differing levels of cohesion.

However, eschewing religion from the practice of science overlooked the role religious form took within the development of scholarship. Positivism became a way to justify sociology by copying what natural and physical scientists did in the heyday of mechanism and empiricism that underpinned industry, government, and eventually allopathic medicine. But as science became more widespread and successful it also became more diverse and contemplative. Seeing so much in various fora helped scientists to see limitations to mechanism and separation of humans from the process of knowledge.

This came into common knowledge as mid 1900's physics used Einstein's theoretical construct of relativity to map out and understand a physical universe based on relational, holistic, inter-connectivity. This opened up lenses to see things like spacetime and ways to split atoms. So began the nuclear age and concerns about same.

Around the same time new modes for doing sociology arose in the recognition of everyday life in small groups. This led to legitimation of new methods that mimicked anthropology like participant observation, and field studies in order to understand issues of interest. Ultimately this led to a political process that

defined oppositions in qualitative versus quantitative methods and a struggle for qualitative methods to gain legitimacy against the more established tradition of quantitative methods that followed Comte and Durkheim style in sociology at the time.

I recall in the 1990s listening to a colleague lament on how she would like to put together monumental concepts like structure, state, and capitalism with immediate experiences of everyday life. My response was "Why did you take them apart?" This is one of many experiences that have got me thinking about how methods of analysis in sociology are shaped by the desire to separate phenomena into opposing parts.

I argue that this is a habit inherited via the promotion of aspects of Aristotelean philosophy in medieval Christian theology and scholasticism—notably dialect. It attached conceptions of morality like right/wrong, truth/falsehood to the philosophical epistemology of dialectic. It was expanded as mechanism (studying phenomena by taking them apart into components) that was popularized in Western/European thought by thinkers like Isaac Newton.

Co-emergent with debates about sociological methods since the 1960s have been questioning of intellectual practices in the social sciences and humanities focussing on the creation of knowledge and what this means for modernity and decoloniality (Khoury and Khoury 2013). This has led to a focus on the way Western/European colonial empires from the 1400s onward profited by taking over multiple cultural locations around the globe and the ideologies, languages, and practices that support this domination.

I add to this line of thought by picking up this history earlier in pre-Christian BC times in order to show the way religion grounded what became scholarly thought on the key dimension of mechanism. It remains to this day in sociology in reliance on antinomial oppositions like constructivism versus positivism to some extent because of its roots in mechanism.

Mechanism transcends issues like objectivity because it goes to how we set up to work things out. It is pre-content. As such it sets us up to expect to see things in a dialectic opposition. When there is a point we look for the counterpoint. This may lead to overlooking Aristotle's idea that humans, in concert with one another (*endoxa*) use their ability to make symbols (*phantasma*) to figure out how

the world works. So where positivism calls for humans to filter out their beliefs and interactions with one another it loses the key component of human capacity. This leads to what can be seen as an impoverished sense of objectivity and positivism (Neuenschwander, 2013).

Aristotle thought that human perceived, group legitimated ideas were an important addition to deity based knowledge. This fit with his ancient times of mysticism and later Medieval Christian philosophy. However, it did not fit as well with Renaissance and later times in what by then had formed into Europe. Deity was increasingly separated from state and scholarship in burgeoning Western/European thought.

Humans became the preferred source of legitimation of knowledge in scholarship for state and industry. This resulted in a positivism that stripped away parts of a scholar's humanity – beliefs, opinions, ideologies, feelings – when they practice knowledge making. Observers needed to separate themselves from phenomena they study. This is noticeable in practices like scholarly writing in the impersonal - "it was discovered" "as if it emerged on its own. This seems to mimic use of an omniscient in the way a deistic epistemology might.

The lesson in seeing our mechanistic habits is that they are not necessary. Possible Yes. Necessary, No.

In current formal scholarship deity is rarely attributed with playing a causal or interpretive part. But there is still a part for things above and beyond individual humans. So who or what has taken that part? At times I think that humans have assumed this role for themselves by looking for an omniscience in terms of defining what is or is not relevant. Maybe deity is a convenience construct that was necessary as a political tool to allow human knowledge making to prosper (Cottam 2015). By allowing for god and human generated knowledge Aristotle's philosophy was able to co-exist with theology. Collective social properties like social facts, location, identity, or episteme that are above and beyond individuals may resemble the form of deity. Perhaps a value free positivism that strives to set out principles in the social that are external to individual humans fits some science's practices the same way Aristotle's Prime Mover fit Medieval Christian theology. It was accepted and prospered partly because it fit with monotheistic

philosophy that had a single god then created a devil to form a dialectic.

A HOLISTIC TAKE ON POSITIVISM A HOLISTIC TAKE ON POSITIVISM

Along the way human group contextual meaning may have been less attended to in favour of laws that were beyond human creation and/or social facts that transcended individual humans. We may not attend to the issue of religion because our ingrained reflexes keep it from coming into conscious thought when we do our work.

We may not think about deity when assigning significance or contributing cause. But this is where Western/European scholarly mind set got started. It remains in form. Seeing this offers to improve sociological epistemology by opening wider the door that Aristotle carved out for humans to enter knowledge making alone and in groups. The holistic concept of non-summativity—the whole is greater than the sum of its parts is available to assist. This promises to make room for a greater range of world knowledges instead of dismissing practices as barbaric (Khoury and Khoury 2013).

Some Sociology adopts a form of empiricism framed as positivism that takes humans out or at least minimizes the way they can participate through a conception of objectivity.

In the physical and natural sciences this is recognized as problematic in the sense that even if physical phenomena are not part of humans, we study them using our bodies. Of particular note here is the work of Maturana and Varela (1987) who used a study of eye perception to point out the way human mind sets variously organize physical stimuli to form an impression. In medical science the gold standard for testing new treatments is the double blind randomized clinical trial that recognizes human social construction processes.

This opens up the door to supplementing mechanism in the epistemologies of sociology to embrace holism. Mechanism may be an unconscious reflex. This reflex may be grounded to some extent in classical science on mechanism (Valentinov 2014). Watching out for mechanistic form in our scholarship can open possibilities for using holistic/systems thinking,

We can recognize that European/Western thought was holistic in its roots in Aristotle who wrote about both dialectic mechanistic

opposition and non-summativity - the whole is greater than the sum of its parts. Reconnecting with this opens the door to new understanding of old ideas. I sense that some of the resistance to holistic/systems thinking is its association with conservative political agendas like the work of Parsons (1979) and Luhman (Guy 2018; Luhman 1982). These associations are possible but not necessary. I argue that systems ideas can be equally supportive of political agendas that aim to eliminate inequalities (Hanson 2001). There is a vast arena of systems thinking in multiple disciplines social, natural, physical, medical, managerial etc. that can help with adding more forms to sociology's practices.

Within this array an alternative positivism that is humanist and inclusive of subjectivity is possible. It appears when we go back to the roots of conceptions of empiricism, positivism, objectivity, logic, and nomothetism in Aristotle and their applications in various scholarly fora since then.

This means that for about 100 years we have been arguing about something Aristotle and a great deal of the scholarship built on his work didn't mean. When you look at Aristotle's ideas three points arise. First, he was writing humans into, not out of, the process of creating and legitimating knowledge. Second, his ideas on separation from the phenomena being studied were about separation from deistic interpretations non human ones. Finally, his ideas proliferated in Medieval Christianity and were foundational to scholasticism in the territories that later became Europe and the long arms of Western thinking.

Even hard core positivist survey data number "crunching" is a process of back and forth reinterpretation in the form of recoding, deciphering hand writing, shaping statistics etc. Such quantitative positivist oriented research is relying on human rethinking, and symbolizing in a way that resembles a grounded theory approach (Glaser and Strauss 2009). This harmonizes with Gregory Bateson's reference to a balance of rigour and imagination (Tramonti 2019).

All of this has led me to argue that its possible to infuse theory of epistemology and methods in Sociology to see an expansive positivism based on its roots in Aristotlean empiricism. This allows inclusion of qualitative approaches within in positivism. To wit an "attitude of wonder" that is tied to recognition that so called scientific approaches are themselves sustained "productions" of a

“folk idiom” (Pollner 1987, p ix, x). This is consistent with what Aristotle saw as human symbol making and legitimation of knowledge in context.

In this vein Pollner argues that “‘subjectivity and ‘objectivity’ are twin born, each pole dialectically requiring and elaborating the other” (Pollner 1987 p:21). I agree and offer that this supports my position that a polarization is unnecessary. This has led to many debates over separations that do not separate (Ahmad 2014, Francisco 2017, Hasan 2014, Age 2011).

Digitalization of experience and its interpretation is now commonplace. There is far greater access to counting, calculation, and statistics for many more things. For example several years ago someone walking in a leash free dog park showed me his new “Dog Bark Analyzer” app on his phone. Today there are multiple online sources that offer to analyze DNA. This is action that sociology might classify as quantitative, positivist, nomothetic, and/or logical. But we do it in a flowing array of everyday activities that construct fluid concerts of meanings.

Recognition of inclusive research epistemology is showing up in the physical and natural sciences with ideas like soft complexity (Shikliorevsky 2015), fuzzy logic, and polycentricism (Neisig 2017). It shows up in experimental philosophy that suggests knowledge can only be validated in human experience (Valentinov 2018),

CONCLUSION

Underlying my argument that positivism can be inclusive of constructivism and vice versa is a suggestion that we do not discount the role of spiritual issues in the practices of scholarship. Religion and spiritualism were integral to the development of modes of knowledge legitimation in Western/European scholarship. So these issues need to be examined in historical context in order to understand current practices. We should not turn our lenses away from them because of the Western/European tradition of separating Religion from state. This is particularly important to scholarships in a broad range of social context practices that fall outside Western/European traditions.

A holistic take on positivism holds the potential to move sociological epistemology forward by seeing influences of mechanistic form, religious heritages, and wholes that emerge

above and beyond parts. This is in keeping with trends toward spiritualism as a more inclusive practice than formally defined religion (Litonjua, 2016). We might use a holistic/systems construct of polycentric social experiences to allow simultaneous rather than hierarchic social contexts of identity and location (Neisig 2017). This can allow bridges between the roots of Western/European scholarship and current understanding of world cultures that focus on holistic views and spiritualisms that are fused into everyday practices in social experience.

References

- Åge, L. (2011). Grounded theory methodology: Positivism, hermeneutics, and pragmatism. *The Qualitative Report*, 16(6), 1599-1615. Retrieved from <http://ezproxy.library.yorku.ca/login?url=https://search-proquest-com.ezproxy.library.yorku.ca/docview/920380775?accountid=15182>
- Ahmad, S. (2014). Philosophy of language from positivism to contextualism: A brief exposition. *The Journal of Humanities and Social Sciences*, 22(3), 21-34. Retrieved from <http://ezproxy.library.yorku.ca/login?url=https://search-proquest-com.ezproxy.library.yorku.ca/docview/1697016058?accountid=15182>
- Cadenas, Hugo. (2019) The Unity of (Social Systems) Science: The Legacy of Bertalanffy." *Systems Research and Behavioral Science*, vol. 36, no. 3, May 2019, pp. 274–80. DOI.org (Crossref),
- Bolton, R. (1999). The epistemological basis of Aristotelian dialectic. In: Sim, M. (ed.) *From Puzzles to Principles: Essays on Aristotle's Dialectic*. (New York: Lexington Books), 57-65.
- Berkovich, Izhak. (2018) "Beyond qualitative/quantitative structuralism: the positivist qualitative research and the paradigmatic disclaimer, *Quality & Quantity*, 52(5), p. 2063-2077.
- Braun, Kathryn L. Braun, DrPH, Colette V. Browne, MSW, DrPH, Lana Sue Ka'opua, MSW, PhD, Bum Jung Kim, MSW, PhD, Noreen Mokuau, MSW, DSW, (2014) Research on Indigenous Elders: From Positivist to Decolonizing Methodologies, *The Gerontologist*, Volume 54, Issue 1, February 2014, Pages 117–126, <https://doi-org.ezproxy.library.yorku.ca/10.1093/geront/gnt067>
doi:10.1002/sres.2595.
- Corning, Peter A. (2014) Systems Theory and the Role of Synergy in the Evolution of Living Systems: The Role of Synergy. *Systems Research and Behavioral Science*, vol. 31, no. 2, Mar. 2014, pp. 181–96. DOI.org (Crossref), doi:10.1002/sres.2191.
- Cottam, Ron, et al. (2015) "Chaos and Chaos; Complexity and Hierarchy" *Systems Research and Behavioral Science*, vol. 32, no. 6, Nov. 2015, pp. 579–92. DOI.org (Crossref), doi:10.1002/sres.2288.

- Cook, W. R., Hertzman, R. B. (1983) *The Medieval World View: An Introduction*, (New York: Oxford).
- Durkheim, Emile. (1964) *The Rules of Sociological Method*. New York: Macmillan Publishing Co..
- Durkheim, Emile. (1951) *Suicide: A Study in Sociology*. Translated by John A. Spaulding. New York: Macmillan Publishing Co.
- Francisco Javier Ullan de la Rosa. (2017). The “false” debate between positivism and verstehen in the origins of sociology: Postdisciplinary humanities & social sciences quarterly postdisciplinary humanities & social sciences quarterly. *Human Affairs*, 27(3), 344-362. doi:<http://dx.doi.org.ezproxy.library.yorku.ca/10.1515/humaff-2017-0028>
- Gamez, D., & Clark, R. (2015). Measure for Measure: A Two Part Drama About Recent Secularization and the Life Cycle in the United States.. *International Review of Modern Sociology*, 41(2), 135-149. Retrieved June 29, 2020, from www.jstor.org/stable/44510030
- Glaser, Barney G., and Anselm L. Strauss. (1967) *The Discovery of Grounded Theory: Strategies for Qualitative Research*., New York: Aldine.
- Guy, Jean-Sébastien (2018). “Niklas Luhmann before Relational Sociology: The Cybernetics Roots of Systems Theory.” *Systems Research and Behavioral Science*, vol. 35, no. 6, Nov. 2018, pp. 856–68. DOI.org (Crossref), doi:10.1002/sres.2523
- Hanson, Barbara. (2015) “Objectivities: Constructivist Roots of Positivism.” *Quality & Quantity*, vol. 49, no. 2, Mar. 2015, pp. 857–65. DOI.org (Crossref), doi:10.1007/s11135-014-0027-6.
- Hanson, Barbara (2014) *What Holism Can Do for Social Theory*. New York: Routledge - Routledge Studies in Social and Political Thought.
- Hanson, Barbara. (2001) “Systems Theory and the Spirit of Feminism: Grounds for a Connection.” *Systems Research and Behavioral Science*, vol. 18, no. 6, Nov. 2001, pp. 545–56. DOI.org (Crossref), doi:10.1002/sres.412.
- Hanson, Barbara (2008) *Whither Qualitative/Quantitative?: Grounds for Methodological Convergence, Quality and Quantity*: *International Journal of Methodology*, 42:97-111.
- Hasan, M. N. (2016). Positivism: To what extent does it aid our understanding of the contemporary social world? *Quality and Quantity*, 50(1), 317-325. doi:<http://dx.doi.org.ezproxy.library.yorku.ca/10.1007/s11135-014-0150-4>
- Haraway, Donna. “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective.” *Feminist Studies*, vol. 14, no. 3, 1988, p. 575. DOI.org (Crossref), doi:10.2307/3178066.
- Jagger, Gill. (2015) “The New Materialism and Sexual difference.” *Signs* 40 (2): 321–342.
- Khoury, S., & Khoury, L. (2013). ‘Geopolitics of Knowledge: Construction An Indigenous Sociology from the South. *International Review of Modern Sociology*, 39(1), 1-28. Retrieved June 29, 2020, from www.jstor.org/stable/

43496477

- Litonjua, M. (2016). Spiritual, But Not Religious: Untangling a Seeming Paradox. *International Review of Modern Sociology*, 42(1), 21-55.
- Luhmann, Niklas. (1982) *The Differentiation of Society*. New York: Columbia University Press.
- Martin, Christopher F.J. (1996) *An Introduction to Medieval Philosophy*. Edinburgh: Edinburgh University Press.
- Maturana H, Varela F. (1987). *The Tree of Knowledge*. Shambala: Boston.
- Modrak, D. K.W. (1987) *Aristotle: The Power of Perception* (Chicago: University of Chicago Press)
- Neisig, Margit. (2017) "Transition in Complex Polycentric Contexts: Trusting and Multifunctional Semantics." *Systems Research and Behavioral Science*, vol. 34, no. 2, Mar. 2017, pp. 163–81. DOI.org (Crossref), doi:10.1002/sres.2450.
- Neuenschwander, Erwin (2013) 'Qualitas and Quantitas: Two Ways of Thinking in Science' *Quality and Quantity*, 47(5): 2597-2615. DOI.org (Crossref), doi:10.1007/s11135-012-9674-7.
- Olson, Richard G. (2004). *Science and Religion 1450-1900* edited by Baltimore, Maryland: Johns Hopkins University Press
- Parsons, Talcott. (1979). *The Social System*. London: Routledge and Kegan Paul.
- Phillips, D. C. (1983) "After the Wake: Postpositivistic Educational Thought." *Educational Researcher*, vol. 12, no. 5, May 1983, pp. 4–12. DOI.org (Crossref), doi:10.3102/0013189X012005004
- Pollner, Melvin. (1987) *Mundane Reason: Reality in Everyday and Sociological Discourse*. Cambridge University Press.
- Price B. B. (1992) . *Medieval Thought* (Cambridge, Massachusettes: Blackwell).
- Renon, L. V. (1998) Aristotle's endoxa and plausible argumentation *Argumentation* 12 (1): 95-a113.
- Rousseau, David. (2014) "Systems Philosophy and the Unity of Knowledge: Systems Philosophy and the Unity of Knowledge." *Systems Research and Behavioral Science*, vol. 31, no. 2, Mar. 2014, pp. 146–59. DOI.org (Crossref), doi:10.1002/sres.2189.
- Smith, R. (1999). Dialectic and method in Aristotle. In: Sim M (ed.) *From Puzzles to Principles: Essays on Aristotle's Dialectic* (New York: Lexington Books), 39-55.
- Shkliarevsky, Gennady. (2015) "Squaring the Circle: In Quest for Sustainability: Squaring the Circle." *Systems Research and Behavioral Science*, vol. 32, no. 6, Nov. 2015, pp. 629–45. DOI.org (Crossref), doi:10.1002/sres.2271.
- Taylor, A.E. (1955) *Aristotle*. (New York: Dover Publications Inc).
- Tramonti, Francesco. (2019) "Steps to an Ecology of Psychotherapy: The Legacy of Gregory Bateson: Psychotherapy on the Footprints of Gregory Bateson's Epistemology." *Systems Research and Behavioral Science*, vol. 36, no. 1, Feb. 2019, pp. 128–39. DOI.org (Crossref), doi:10.1002/sres.2549.

- Valentinov, Vladislav, and Ingo Pies. (2018) "From Complexity Reduction to Moral Character: A Deweyian Reading of Luhmann's Social Systems Theory: From Complexity Reduction to Moral Character." *Systems Research and Behavioral Science*, vol. 35, no. 6, Nov. 2018, pp. 632–44. DOI.org (Crossref), doi:10.1002/sres.2507.
- Valentinov, Vladislav. (2014) "The Complexity-Sustainability Trade-Off in Niklas Luhmann's Social Systems Theory." *Systems Research and Behavioral Science*, vol. 31, no. 1, Jan. 2014, pp. 14–22. DOI.org (Crossref), doi:10.1002/sres.2146.



This document was created with the Win2PDF "print to PDF" printer available at <http://www.win2pdf.com>

This version of Win2PDF 10 is for evaluation and non-commercial use only.

This page will not be added after purchasing Win2PDF.

<http://www.win2pdf.com/purchase/>