Liberating methodological thinking in human sciences from grand theories

Nikita A. Kharlamov is an associate professor of psychology at Aalborg University. He specializes in natural setting perception and the role of culture in complex perceptual processes.

Einar Baldvin Baldursson is an associate professor of psychology at Aalborg University. He specializes in the clinical application of social psychology.

Abstract

Many humanistic and social disciplines are naturally inclined to seek for human-, person-, self- centered focus, and develop a holistic theory of such. Such disciplines continually engage with philosophical, metaphysical and meta-theoretical perspectives. This engagement often leads to a singular focus on the necessity of a "grand unified theory" at the expense of any and all alternative perspectives. Properties of grand theories are discussed on the examples of Giddens and Bourdieu. It is argued that grand theories hamper a more productive focus on concrete phenomena. Robert Merton's focus on "middle range" theories is revisited and its continuing relevance is highlighted. The level of abstraction characteristic of such theories, as well as the way they engage with the empirical social reality, are discussed. The article concludes by considering the paradoxical reductionism that can be observed in presumably the most anti-reductionist grand theories.

Keywords Grand theory, methods, middle range theory, phenomenology, social psychology

The perennial quest of the humanities and the social sciences is to understand what has alternately been called the soul or the mind, and to figure out what it means to be human and to live in a social universe. In the seventeenth century, Descartes had conveniently dissociated the mind and the body, opening the way to scientifically studying human biology and physiology while preserving the religiously-coveted metaphysical status of the soul. With the advent of materialism, Cartesian dualism has come under fire, while the question has been eventually refashioned in terms of understanding the human brain. Today, in the age of neuroscience, scientists often quip that the ultimate challenge for the human brain is to understand itself. Does it mean, however, that the outcome of these efforts is necessarily a grand unified theory of everything human?

We argue that the succession of grand theories (GT) in the social, psychological, and behavioral sciences is not progressive, does not inspire critical debates, and has not been able to advance empirical research. Conversely, many GTs have shown marked antipathy to data. As an alternative, drawing on examples from social psychology, we propose to revisit Robert Merton's concept of theories of the middle range (MRT) that focus on empirically accessible phenomena.

The world according to grand theories

A classic description of the relation between research and theory assumes that the process starts with some kind of philosophical ontological commitment, and moves from there to theory. Theory then deductively moves to research design. Late twentieth century has seen a resurgence of grand paradigms in humanities such as Foucauldian poststructuralism and Gadamerian hermeneutics (Skinner 1990) that claimed a split from the natural sciences and posited overarching schemes aimed at understanding individual facts and events in their terms.

A true GT focuses on the logical and conceptual relation between the theoretical postulates, models or logical abstractions, that are accorded an essential role within its universe. GTs see the world as an expression of interconnected "grand structures" perceived and understood through theoretical thinking. A field characterized by fragmented theoretical propositions must be immature and possibly in crisis. Since research is seen as inherently deductive, a pur-

ported theoretical crisis can only be addressed through more theory. The epistemic status of GTs is often construed as privileged, which is to say, a GT does not commonly contain any clearly defined independent truth criterion. At best, many such theories implicitly adhere to a "coherence" theory of truth, that is, incorporate statements that associate with other statements already contained in a theory. In practice, this means that true GT can never be rejected on empirical grounds alone. On the rare occasions where GTs propose predictions, failures tend to be seen to stem from imperfectness of evidence. Under this view a true GT generates understanding, illuminations and insights, an approach to the world, a method to seek and find sense and accommodate new phenomena within a totality of a theoretical narrative.

Case study: Giddens and Bourdieu

A case study in how GTs operate is offered by two well-known theories of society commonly taught as required part of bachelor curricula in humanities and in psychology, including in Denmark. Both purport to explain the nature of social relationships, the role of the individual, and the degree of individual freedom.

Anthony Giddens (1984) proposed the so-called structuration theory, postulating a duality of social structure and individual agency. He himself emphasized that his theory "will not be of much value if it does not help to illuminate problems of empirical research" (Giddens 1984, xxix). Yet, as Gregson (1989) observed, structuration theory failed to provide either workable guidelines or empirically-relevant concepts. The best response to Gregson's critique seems to be that the theory can work as a "'sensitizing device' that encourages researchers to take human consciousness and everyday life seriously" (Warf 2011, 183). Tellingly, Giddens's own recent work on climate change (Giddens 2011) proceeds without as much as a passing mention of structuration.

While Giddens tried to salvage limited freedom of action, Pierre Bourdieu aimed at showing the ultimate dependence of the individual on the social position they occupy, for example in the form of his famous study of reproduction (Bourdieu and Passeron 1990). Yet he soon produced a GT of his own, and in his debates with critics he accused them of an "epistemology of resentment" which allows its advocates to "prohibit others from doing what they them-

selves are unable to do, so that they can impose their own limits on others" (Bourdieu 1990, 35). This defensiveness has not been unique to Bourdieu, of course, but it shows clearly the kind of conundrum that grand theorizing faces with respect to evaluation of its validity.

Interestingly enough, the advent of postmodernism and its critique of "grand narratives" (Lyotard 1984) has, rather than toning down grand theorizing, led to an even broader explosion of theoretical work on themes like deconstruction and discourse. Indeed, judging by back covers of countless books, one consequence of postmodern liberation of thought from systematic structures of rationality and logic seems to have been that any conceptual combination could now claim the status of a radically new approach to any domain of reality, with an arbitrarily postulated scope and ambition. But does the blooming of a thousand theoretical flowers actually represent advancement of science, and especially science oriented at concrete empirical phenomena?

Theories of the middle range and the empirical challenge

Robert K. Merton (1968) has proposed the idea of theories of the middle range. This idea originated in understanding that grand theories are not necessarily wrong or misleading so much as potentially premature. While Merton longed for direct confrontation between grand theories in sociology and social psychology, he suspected that currently possible theories suffer from a great divide between theoretical arguments and questions that realistically can be answered through actual and possible research. To promote the latter, Merton identified theories that involve sets of ideas and concepts that neither are as abstract as GTs, nor as specific as individual empirical research protocols. Their main purpose is to connect empirical endeavors across a number of different research contexts using logical and conceptual abstractions or models. As Merton noted, such connection is akin to "the same modest and limited development of ideas which occurred in the early modern period of other sciences, from natural history to chemistry and physics" (Merton 1957, 108). Merton saw MRTs as the middle way between the hasty progression of GTs from a limited number of abstract concept to arcane networks of theoretical statements (the kind witnessed, for instance, in the debates on structuration theory), and the theoretically low-level accumulation of individual empirical records and hypotheses.

The empirical challenge presents the counterpart to theoretical proliferation especially in the domain of quickly emerging and changing methods. In psychology and brain sciences this has become especially evident since 1990s, with the advent of modern methods of brain scanning (such as functional magnetic resonance imaging, fMRI) as well as the mass accessibility of computational power necessary for analyzing data from already known methods such as electroencephalography (EEG). 2010s have likely added a further democratization of analytic expertise and skills in that computer analysis of quantitative and qualitative data. What previously required expensive software (such as IBM SPSS) and specialized training can now be mounted on end-user machines using free programming environments like R and Python, which come with inexhaustible supply of Internet-based documentation, training, and expert community advice. Furthermore, the social and behavioral sciences in 2010s are seeing an explosion of interest in the so-called Big Data, which essentially means applying exploratory statistics and machine learning algorithms to all sorts of data about human behavior that gets automatically collected during routine activities of the "Internet of Things." Examples of such "naturally occurring behavioral data" (to extend a term often used in some strands of qualitative research, e.g. by Silverman 2013) include public Twitter feeds and municipal statistics made public by many local governments across the world (e.g., by the city of Aarhus in Denmark – http://www.smartaarhus.eu/projects/open-data-aarhus). Even more naturally occurring data is available to commercial agents such as retail corporations that collect consumer data. This proliferation blurs the traditional distinctions between discipline-specific kinds of data (e.g., the claims of psychology to psychometric tests or the claims of neuroscience to EEG), and underscores the necessity of middle range theories to address the quickly changing landscape of empirical research.

Contrary to what the adherents of grand theorizing generally presuppose, much of scientific innovation has in the past century been primarily driven by methodological breakthroughs rather than by creating new GTs. Thus, Greenwald (2012) has observed that most Nobel Prizes in the sciences have been awarded for essentially methodological advances. He contends that quite a number of very ambitious theoretical controversies in cognitive and social psychol-

ogy, such as the debate between rationalistic and heuristic models of reasoning, have either never been resolved, or, as happened to a minority of them, have shown signs of resolution primarily due to methodological and research-technological solutions. For example, according to Greenwald (2012, 105), brain scanning was essential in supporting a multiple systems account of mental categorization. This represents a productive interplay between empirical experiments and theories of the middle range that apply to a particular domain of cognition, rather than a top-down resolution by a grand theoretical schema. In terms of White and Poldrack, this is an example of different models of cognitive processes producing a behavioral mimicry, that is, the state where "the same data can be produced by each type of model" (White and Poldrack 2013, 79). They note that the function of brain imaging in this case is that of *constraining* theoretical models and provide differential support for them.

A proper theory of the middle range has the ability to combine what on the surface seems to be different empirical phenomena. This produces an account of a concrete domain of human behavior or function on a particular scale. One well-known example of MRT in social psychology is the role-set theory. According to Merton,

> "Role-set theory begins with the concept that each social status involves not a single associated role, but an array of roles. This feature of social structure gives rise to the concept of role-set: that complement of social relationships in which persons are involved simply because they occupy a particular social status." (Merton 1968, 42)

Without engaging in broad debates about the nature of social structure or the relationship between structure and agency, role-set theory was able to put together findings in several areas of workplace research. MRTs thus work as a kind of guide for the design and interpretation research in social science, humanities and last but not least, psychology.

Abstraction as a tool of the middle range
MRTs proceed by using relatively limited conceptual abstractions across a select number of empirical domains. Pawson (2013) discussed this procedure at length, and it is worth recapping here. The

key to abstraction is integrating key features of a phenomenon across a number of occurrences. Abstractions of the middle level enable us to identify and understand specific occurrences as an expression of a more general instance. In doing so, we subscribe to a kind of middle-range conceptual realism: we attempt to go beyond pure association, or clustering, of observable features, to arrive at domain-applicable concepts that differentiate between broad classes of phenomena. Importantly, these allow inclusion as well as exclusion of superficially similar occurrences.

An example of such procedure is differentiating between three classic middle-range social-psychological theories: social identity (Tajfel and Turner 1986), social comparison (Festinger 1954), and reference group (Hyman 1942). All three theories operate in the domain of judgments and evaluations that people make of one another in social contexts. Social identity theory places primacy on the individual's belonging to and identifying with a particular group (e.g., ethnic group), giving rise to the in-group favoritism. Social comparison underscores the processes of comparing oneself with others along particular dimensions (e.g., monetary wealth). Reference group theory prioritizes distinct groups (such as local cultural elites for a newcomer) in relation to which an individual shapes their attitudes, values, and self-appraisals.

It may very well be the case that all three types of phenomena are expressions of one basic process. But on the middle range, a strong case can be made that the three theories describe distinct "modules," sensitive for different inputs and influencing distinct and separate forms of social behavior. If this is correct, then a deeper focus on the specific applicability of these three "modules" and the differences between them across specific empirical fields is likely to be more scientifically insightful and pragmatically useful than an attempt to construe a GT unifying them all.

Practical principles of middle range theories

Following Merton (1968) and Pawson (2009; 2010; 2013), we suggest that three principles govern development and application of middle range theories.

1: Sufficient level of abstraction

According to Merton (1967, 68), one criteria of useful MRTs is that they are "sufficiently abstract... to transcend sheer description or empirical generalization." Good empirical research typically produces a multitude of details and descriptions that need to be reconstructed through abstractions or models that maintain transparent connection with data. Each MRT identifies phenomena the generality of which, however, are limited to a particular empirical domain and scale. It also provides explanations that hold within the specific domain or set of domains, without necessarily purporting to provide universal explanations valid for spatial and temporal scales, levels of organization, and historical periods of human activity. Social identity, social comparison, and reference group theories are all limited to the domain of interpersonal and group evaluations and judgments, and to the scale of higher mental processes (evaluations and judgments) and person-group processes.

Empirical and theoretical maturation in a particular research field is brought about through (a) development and application of specific MRTs; (b) identification of their limits and specification of explanatory powers; (c) emergence of a set of MRTs that provide a number of distinct perspectives on the chosen domain and (d) finally MRTs whose primary role is to capture or model phenomena, that subsequently are integrated intro higher level MRTs. The does not mean that the MRT-perspective entitles a relativist epistemology: middle range theories typically share similar explanatory domains and scales and vary in particular "inputs," "outputs," and theorized mechanisms and observed patterns. Thus, it is incorrect to say that a particular empirical field (such as "Janteloven – the unspoken rules of interpersonal behavior and evaluation – in Danish corporate environments") can be described through an open range of perspectives. Rather, a particular MRT out of a set is best applicable to this field. This means that MRTs are at the same time closely tied to empirical investigations and phenomena, and can neither be owned by, nor be particular to any specific GT. Instead we should expect multitudes of MRTs, each a "tool" developed for particular purposes, and often used in combination with other such tools.

Merton himself was vague about what constitutes the ideal level of abstraction. We suggest that this vagueness is necessary to prevent dogmatic codification of this approach. Merton himself more

than anything wanted to avoid conceptual systems that aspire to totality, so abstract as to be seemingly able to encompass every kind of process and behavior, without really explaining anything at all.

2: Transparent deduction

Merton writes that middle range theories "consist of limited sets of assumptions from which specific hypotheses are logically derived and confirmed by empirical investigation" (Merton 1968, 68). He thus pinpoints both the manner in which a theory of the middle range is constructed, and the core feature of such theories.

Firstly, such theories must consist of a set of clear propositions. Secondly, MRTs focus on empirical patterns. Patterns are neither laws nor impeccable empirical regularities. Empirical regularities in the social world are inherently fuzzy, and even the strongest pattern will sometimes be conspicuously absent. Sometimes even an exception might prove the rule. However, theoretically valid empirical regularities should be transparently deductible from middle range assumptions and propositions. Subsequently prediction can be produced "which is more secure than mere empirical extrapolation from previously observed trends" (Merton 1968, 152).

3: Adaptive confrontation with explanatory failure

Any scientific claim that something might be true also accepts that it might be false. Thus, it should be possible to test middle range theories, and they should be able to fail. "The middle range orientation involves the specification of ignorance. Rather than pretend to knowledge where in fact it is absent, it expressly recognizes what still must be learned in order to lay the foundations for still more knowledge." (Merton 1968, 68). While most GTs claim to adhere to some kind of falsifiability, they, as we have seen above with Bourdieu, tend to reject empirical criticism. MRTs attempt to explain empirical patterns that are dynamic, flexible and mutable. Over time any research based on theories of the middle range will accumulate empirical anomalies. For MRTs, the most productive strategy is modification and adaptation, so that the new versions accommodate empirical anomalies and confront these anomalies with new methods and techniques. For example, in this fashion behavioral mimicry was first identified in the domain of mental categori-

zation, and then resolved with an entirely new class of methods (Greenwald 2012; White and Poldrack 2013).

Conclusion

Grand theories are unquestionably appealing for the theoreticians, not least for the prospect of the associated fame, and for the general public, not least for the shock value and grandeur associated with the next profound explanation of the mysteries of humanity. However, it appears that thus far middle range theories have had a far better survival chance than grand theories. Even GTs survive best when "demoted" to MRT level: thus, Bourdieu's "reproduction" seems to work best in education studies, after being formally specified to focus narrowly on the "different mechanisms through which [measurable] cultural capital leads to [measurable] educational and socioeconomic success" (Jæger and Breen 2016, 1081).

Perhaps the biggest paradox in GT development is the oft-stated fear of reductionism (for instance, "reductionism of the psyche to brain processes" is a favorite argument in many humanistic psychologies). Yet ironically, the grandeur of GT claims often results in nothing less than reductionism to the grandest possible level – a fate suffered, for instance, by phenomenology which attempted to place a (conscious) subject in the center of human existence. This thinking subject is typically assumed to have (perhaps with some training in phenomenological introspection) complete and privileged access to the content of their own holistic and indivisible consciousness. Critical examination of phenomenology, however, has shown that consciousness is famously murky and subjects don't seem to have a clear idea even about the basic qualia such as the color of their dreams (Schwitzgebel 2011), while decades of neuropsychological research have shown how entire swaths of consciousness can be altered or destroyed by brain damage. It turned out that the mind cannot be effectively reduced to classical phenomenological subject.

Perhaps eventually humanity will arrive at a unified theory of human mind, social interactions, and society, just as it has seemingly zeroed in on the basics of physics (though even in physics the unified field theory, for instance, is still out of reach). For the time being, we suggest that human sciences would be well served by suspending their fascination with grand schemas and by engaging

in middle range theorizing in tight connection with exciting new methods and new and established empirical fields. For many scientists (as the authors of this article have learned), this might be a truly liberating experience.

References

Bourdieu, Pierre. 1990. *In Other Words: Essays Towards a Reflexive Sociology*. Translated by Matthew Adamson. Stanford: Stanford University Press.

Bourdieu, Pierre, and Jean-Claude Passeron. 1990. *Reproduction in Education, Society and Culture.* Second Edition. Translated by Richard Nice. Los Angeles: SAGE.

Festinger, Leon. 1954. "A Theory of Social Comparison Processes." *Human Relations* 7: 117-140.

Giddens, Anthony. 1984. *The Constitution of Society: Outline of the Theory of Structuration*. Cambridge: Polity.

Giddens, Anthony. 2011. *The Politics of Climate Change.* Second Edition. Cambridge: Polity.

Greenwald, Anthony G. 2012. "There is Nothing so Theoretical as a Good Method." *Perspectives on Psychological Science* 7: 99-108.

Gregson, Nicky. 1989. "On the (Ir)relevance of Structuration Theory to Empirical Research." In *Social Theory of Modern Societies: Anthony Giddens and His Critics*, edited by David Held and John B. Thompson, 185-214. Cambridge: Cambridge University Press.

Hyman, Herbert H. 1942. "The Psychology of Status." *Archives of Psychology* 269: 1-94.

Jæger, Mads M., and Richard Breen. 2016. "A Dynamic Model of Cultural Reproduction." *American Journal of Sociology* 121: 1079-1115.

Lyotard, Jean-Francois. 1984. *The Postmodern Condition: A Report on Knowledge*. Translated by Geoffrey Bennington and Brian Massumi. Manchester: Manchester University Press.

Merton, Robert K. 1957. "The Role-Set: Problems in Sociological Theory." *British journal of Sociology* 8:106-120.

Merton, Robert K. 1968. *Social Theory and Social Structure. 1968 Enlarged Edition.* New York: Free Press.

Pawson, Ray. 2009. "On the Shoulders of Merton: Boudon as the Modern Guardian of Middle-Range Theory." In *Raymond Bou-*

don: A Life in Sociology. Volume 3, edited by Mohamed Cherkaoui and Peter Hamilton, 317-334. Oxford: Bardwell Press.

Pawson, Ray. (2010). "Middle Range Theory and Program Theory Evaluation: From Provenance to Practice." In *Mind the Gap: Perspectives on Policy Evaluation and the Social Sciences*, edited by Jos Vaessen and Frans L. Leeuw, 171-202. New Brunswick: Transaction Publishers.

Pawson, Ray. 2013. *The Science of Evaluation: A Realist Manifesto*. Los Angeles: SAGE.

Schwitzgebel, Eric. 2011. *Perplexities of Consciousness*. Cambridge: The MIT Press.

Skinner, Quentin. 1985. "Introduction: The Return of Grand Theory." In *The Return of Grand Theory in the Human Sciences*, edited by Quentin Skinner, 1-20. Cambridge: Cambridge University Press.

Silverman, David. 2013. *A Very Short, Fairly Interesting and Reasonably Cheap Book About Qualitative Research*. Second Edition. Los Angeles: SAGE.

Tajfel, Henry, and John C. Turner. 1986. "The Social Identity Theory of Intergroup Behavior." In *The Social Psychology of Intergroup Relations*, edited by William G. Austin and Stephen Worchel, 7-24. Monterey: Brooks/Cole.

Warf, Barney. 2011. "Anthony Giddens." In *Key Thinkers on Space and Place*. Second Edition, edited by Phil Hubbard and Rob Kitchin, 178-184. Los Angeles: SAGE.

White, Corey N., and Russell A. Poldrack. 2013. "Using fMRI to Constrain Theories of Cognition." *Perspectives on Psychological Science* 8:79-83.