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# Introduction

*To have a scheme and a view of its dignity is of course congruously to work it out, and the 'amusement' of the chronicle in question – by which, once more, I always mean the gathered cluster of all the kinds of interest, was exactly to see what a consummate application of such sincerities would give.*

(Henry James,2009/1909, p. xliv)

*The active nature asserts its rights to the end.*

(William James,1890, v. 2, p. 314)

This book is intended both as a critique and as a constructive project. It proceeds from conviction that the epistemic priorities of the discipline of psychology are in need of reexamination and reenvisioning in keeping with unprecedented challenges facing humankind, and unforeseeable, even unthinkable, changes ahead of us. It is written at a time when climate change, terrorism, pollution, poverty, genocide, information wars, natural disasters, and nuclear proliferation are daily realities, and when technologies dynamically transform patterns of interaction with extraordinary speed and impact. Although a societal and disciplinary need for moral progress (collective wisdom) is paramount, we also remain in need of groundbreaking conceptual and theoretical resources, resources that require passionate intellectual engagement and imagination in the service of new possibilities. In focusing on epistemic priorities, the project of this book takes inspiration from the idea of "frontier science" – science that seeks new windows of understanding the world – and especially from the suggestion that the generation of resources for creative problem solving is the appropriate epistemic goal for scientific advance, and one conditional to the possibility of a sustainable human future (Pandit and Dosch, 2013).

I am hardly alone in acknowledging a need for new solutions, even new modes of thinking. The rise of interdisciplinary science over the past several decades reflects broad recognition that creative problem solving on the scale required to meet contemporary global challenges of extraordinary complexity requires resources (concepts, models, theories, methods) from more than one discipline or any one branch of inquiry. What is needed, even demanded, in short, is broad and multiperspectival collaboration to generate a network of flexible, highly adaptable tools. I have attempted here to reimagine the epistemic priorities of psychological science based on conviction that psychology will increasingly find challenge and opportunity for human impact through interdisciplinary participation, through practices focused on the generation of new questions and articulation of new possibilities for a sustainable human future. In developing the ideas, I suggest a set of *activities* in need of greater appreciation and emphasis. The principal thesis I offer is that many of the activities that are "good for psychological science" in the sense of generating resources for problem solving are also activities that are "good for the arts and humanities." The points of commonality in these domains of activity constitute the grounds of possibility for productive collaboration across psychology and between psychology and other disciplines.

## PRIORITIZING ACTIVITIES AND PERSONS

In asserting the need for evaluation of psychology's disciplinary priorities, I bracket the question of appropriate or legitimate psychological methods. Activities are more fundamental than methods; they extend beyond psychology into other disciplinary spaces, and beyond research practice into everyday life. The analysis of activities as loci of value stems from adoption of the *acting person* as an analytic focus for understanding science, a focus that finds precedent in philosophy of science (especially Dewey, 1938; Polanyi, 1974/1958), psychological theory (Bergner, 2017; Kelly, 1955; Harré, 1992; Lamiell, 2009; Martin, 2017; Martin & Bickhard, 2013; Rogers, 1963; Smythe, 1998; Wertz, 2016), and ethnographic analysis of scientists in real-world contexts of practice (Osbeck et al., 2011; Osbeck & Nersessian, 2006, 2015, 2017). In keeping with the latter, I consider "the acting person" to be an inherently integrated unit of analysis, one that thus stands as an alternative to accounts of science based principally upon *either* analysis of cognitive mechanism *or* macrosocial processes (Osbeck & Nersessian, 2012).

In calls to prioritize persons in psychology, arguments generally include some version of the claim that the category of "person" as an ontological kind implies attributes such as intentionality, rationality, self-expression, language use, rule following, or individuality/particularity, depending on the philosophical emphasis of the author advocating for the rightful place of persons in psychology and the special conditions for the study of persons (e.g., particular ethical considerations, qualitative analysis enabling participants to express their views and feelings). This book differs from most existing work on persons and psychology in that its emphasis is explicitly on the personhood of the psychological researcher*: the researcher as person*, and the epistemic values that follow from this emphasis. The foregrounding of the personhood of the researcher contrasts with a foregrounding of or emphasis on investigatory procedures and technologies, especially in isolation of the value-laden traditions and contexts in which they are used. The following summary expresses the deep entrenchment of a technique-driven view:

> [G]enerations of students, who, driven by the logic and requirements of a "behavioral science," learned to define scientific problems appreciably in terms of the availability and capability of instruments favored or mandated in their time. The instruments – indeed virtually the entire process of thinking about research – rather quickly took on formidable qualities independent of the persons using them.
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> (Schatzman & Strauss, 1973, pp. 141–142)

Ethnography has long advocated a contrasting "researcher as instrument" model, one that emphasizes active researcher decision-making and engagement of all activities relating to inquiry – the selection of a research site, the collection of data through interview and observation, the interpretation of data, and decisions about when the research is completed and what should follow. That these decisions incorporate goals, emotion, and historical and cultural situatedness and identity follows as a matter of course. Stressing the fact that the whole person of the researcher is engaged in the research process is, indeed, central to what ethnography means – "it has always meant the attempt to understand another life world using the self – as much of it as possible – as the instrument of knowing" (Ortner, 1995, p. 173). But the claim that the researcher is the instrument for ethnographic investigation can tempt unfortunate contrast with other forms of behavioral research, suggesting that they do not involve whole person activity. Such a suggestion encourages a view that procedures for the collection and

analysis of, for example, standardized questionnaire responses are somehow independent of the qualities, motivations, purposes, and interpretive perspective of the researcher by whom such tools are used.

On the most fundamental level, for any method and any empirical project, the empirical instrument includes the researcher, who actively selects and analyzes data for any purpose at hand, selects and employs a set of analytic strategies, creatively participates in generating models, and draws implications from the analysis. That is, the "researcher as instrument" model is applicable to any method of data collection and any form of analysis, despite the different kinds of questions the research addresses and great differences in the degree of interpretive latitude accompanying the use of, for example, narrative vs. multivariate analysis (Osbeck & Nersessian, 2015).

To foreground the researcher as instrument is to emphasize the "acting person" in science, including all forms of psychological science. Importantly, because persons always act within normatively structured contexts of practice that give meaning to their acts, actions are always transactions within systems. Thus to foreground persons does not signal a return to an isolated individualism, but it enables us to consider the particularity of the researcher, the manifest ways in which a unique embodiment and personal history contribute to the complex amalgamation of science practice. As argued elsewhere, wholly cognitive or social accounts are sufficient, and empirical studies of science have long suffered from an "integration problem" (Longino, 2002; Nersessian, 2005). The acting person is an inherently integrated unit of analysis, an integration of social and cognitive processes as well as "something else" not reducible to these categories – a singular configuration of affect, aspirations, interests, and style that inevitably leave their mark (Osbeck et al., 2011), and that contribute to the possibility of scientific achievement (Polanyi, 1974/1958).

One might reasonably substitute "subjectivity" here for "persons" with little loss of meaning, and other authors have found "subjectivity" a more suitable name for the aspect or dimension of science to which we are pointing (e.g., Mahoney, 2004/1976; Mitroff, 1974). The suitability of "subject" and "subjectivity" is found at least in part in the implied contrast with "object" and "objectivity." My own preference for "person" is rooted in its close conceptual relation to the idea of activity, or specifically, active intelligence, itself traceable in at least analogous form to Aristotle, revived by Dewey (1910, 1938), and featured in "enactivist" frameworks in cognitive science that emphasize the inseparability of "activity" from embodiment, coordination with other agents, and resonant attunement with the

environment (e.g., Hutto & Myin, 2017; Menary, 2007; Varela, Thompson, & Rosch, 2017).

Long prior to the enactivist tradition, and in a different corner of scholarship, the theological/philosophical tradition of "personalism" offered an inherently integrated unit of analysis in the concept of "person." Personalism, the philosophical system to which "person" is central, "gives *equal recognition* to both the *pluralistic and monistic* aspects of experience" and "finds in the conscious unity, identity, and free activity of the personality the key to the nature of reality and the solution to the ultimate problems of psychology" (Knudson, *Philosophy of Personalism*, quoted by Muelder, 1998). Although the roots of personalism have been traced at least to the fourth century AD, its modern instantiation and appearance as a "system" (an "ism") are attributable to various points of origin. An American version dates to the late nineteenth century through Borden P. Bowne and colleagues at Boston University.[1] Within this framework, "person" is a metaphysical concept, indeed, a "metaphysical primary" (Brightman, 1943), the "double source" of which is both the Greek *hypostasis* and the Latin *persona* (Muelder, 1998, p. xi). The former implies an underlying reality, essence, or substance – an embodiment, we might say; the latter the "actor's mask"– the face shown or the role(s) one plays in relation to myriad others. The idea of social connectedness and the inherent dignity and worth of all persons so connected are important and necessary implications of the metaphysical assumptions. Consequently, ethical considerations are rarely far from any formulation of the features of "person."[2] Thus to foreground persons in psychology is to foreground values, epistemic, aesthetic, moral, and social in kind.

Similarly, the concept of person is closely tied to the idea of activity, or specifically, active intelligence. Personalism established the active, comparing, reducing, and synthesizing intellect as central to the means by which all knowledge is possible, including knowledge we classify as the conceptual basis of any science. Without the integrating activity of persons, there is no scientific advance, but neither is there experience of any kind. Reasoning as an integrated act of persons "does not stand as an intellectual opponent or alternative to the nonrational or irrational givens in human experience, but reason's work is to relate experience of all kinds to one

[1] The term "personalism" for the same system of thought followed the publication of Renouvier's *Le Personalisme* in 1903 (Muelder, 1998).

[2] Dr. Martin Luther King, Jr. is considered a fourth-generation personalist in his theological pedigree, with his contributions to the cause of social justice rooted in the metaphysics of personalism (Burrow, 1999).

another coherently and synoptically with modes of analysis, hypothesis, and verification appropriate to each and to the whole:" (Muelder, 1998, p. xiii). These are modes of activity. In turn, "empirically coherent interpretation" serves as a "guide to creative living" (Buford, 2006, p. 214). Thus in turn it triggers the question of what kinds of activities constitute epistemic priorities, such that they are to be valued, encouraged, and cultivated at the level of the psychological community, including in our educative practices.

## INSPIRATION, PRECAUTIONS, AND PLAN

Framed as a reimagining of priorities, this book must be owned as a project that is theoretical and principally speculative. However, it is inspired by experience with and reflection on actual practices of communities of scientists engaged in groundbreaking, frontier research. I had the good fortune to collaborate in investigating scientific practice "in the wild" with the *Cognition and Learning in Interdisciplinary Learning Cultures* group led by Nancy Nersessian, and with the collaboration of a team of researchers with a diverse range of disciplinary backgrounds that included Kareen Malone, Nancy Nersessian, Elke Kurz-Milke, and Sanjay Chandrasekharen.[3] The group investigated four bioengineering labs situated on the campus of a major urban university, and sought to characterize the problem-solving and learning practices specific to each laboratory and across them, collecting an extensive body of data that included interviews with researchers at different levels of expertise, observations of their interactions and doings, guided laboratory tours, and eavesdropping on their research meetings. In analyzing the rich data set, we were intrigued to find in interviews the presence of emotional expressions as well as frequent instances of anthropomorphism, metaphor, abundant indications of creative model based reasoning, and complex forms of social engagement at the level of identity formations in interdisciplinary settings. Our analysis led us to develop an account of how the researchers' particularity – their personhood for want of a more adequate term, or "the personal" – is implicated in all aspects of science practice (Osbeck et al., 2011; Osbeck & Nersessian, 2015, 2017). The book that was one outcome of this study illustrated these personal or psychological dimensions of science practice, and concluded

[3] The research was supported by the National Science Foundation ROLE and REESE programs of the Division of Research on Learning: REC0106733, DRL0411825, and DRL097394084 (Nersessian, PI; Newstetter, co-PI).

with the assertion that *value* commitments were a glaring omission from the analysis we were able to offer. We noted that although questions relating to values clearly overlap with issues of emotion, identity, perspective-taking, and other topics covered, the topic of values was too vast and dense to take up with requisite care within the constraints of that project. Yet the topic of values remained as a promise to return to – a nexus of relation of all other dimensions of personhood and therefore science.

During the same process of analyzing the facets of "the personal" dimension of science evident in engineering practice, questions arose concerning the implications for my own discipline, how the "scientist as person" framework may be a helpful framework for understanding the intricacies of the practice of psychological science. However, I have spent too many years as a faculty member in a department historically dedicated to the pursuit of psychology as a human science not to expect fulmination against the comparison of psychologists to engineers. Some readers will respond with the adage that psychology is a human science and bioengineering is a natural science, and therefore their values are incompatible, even incommensurable. Others will wonder what all the fuss is about, and simply affirm that science is science, that science implicates an authoritative set of values, values that are therefore shared across contexts of practice, such as a search for truth and accuracy, systematicity, and rigor. In answer to both of these anticipated responses, one must note that there are various ways of understanding psychology's subject matter, as historical analysis certainly makes clear, and there are different models and conceptions of science and differing views of the relation of science to values. These questions resurface in the chapter to follow, but here it bears stressing that the divergent understandings of both the subject matter of psychology and the nature of science compromise straightforward claims about the scientific standing of psychology, and thus at a certain point the question of psychology's scientific standing itself becomes a question of value. Conceptual difficulties attend any attempt to demarcate boundaries between systems of thought as relevant to psychology, even in relation to a frequently taken-for-granted distinction between natural and human science that justifies the project of identifying alternative standards for human science research. I am inclined to agree with Plotkin that "it is no easy thing to distinguish between the natural and social sciences, and to say that here one ends and the other begins" (2002, p. 11).[4] Beyond this point,

[4] Moreover, there are important differences between physical and life sciences and interdisciplinary science from either of these in isolation. These differences are at best ignored

I am concerned that the emphasis on *difference* between natural and human science – especially bolstered by the view that interpretive practices, empathy, or concern for complexity are required for the subject matter of human science – implies that "subjective" or "personal" human processes are *not* a resource for natural science. My fear is that this demarcation encourages a view of natural science as mechanistic and impersonal, a view at once inaccurate and unhelpful. To be sure, there is a need to consider the special features of the subject matter investigated in any inquiry, and to adapt goals, tools, instruments, and analytic guidelines accordingly. Yet there always appear gray areas of overlap; disciplines and the distinctions between them always reflect human decisions and human purposes.

Because of the difficulty in clearly demarcating human and natural science, and because the primary assumption guiding this project is that values are basic to the structure of any inquiry, this project does not take up the question of the scientific standing of psychology. On my view, the more provocative question concerns the relation between the humanities[5] and arts and sciences at the level of activity. Although this question has been addressed by various authors in different time periods, it has come back into focus in several contexts as a means of addressing the nature of creative and transformative thought. For example, Barbara Stafford's masterful analysis of visual analogy explicates processes of knowledge transfer through visual imagery, including artistic works, illustrated with historical examples (Stafford, 2001). Isaacson's enthralling biography of Leonardo da Vinci locates the roots of his subject's creative genius in his immersion in both science and art, or rather, his habitation at the juncture of these domains. In my own case, I have long been fascinated by the respective psychological arts of brothers William and Henry James, and in what I see as an underlying similarity or resonance in the themes of their work at different life stages, despite their different projects and goals.

It seems to me naturally that an emphasis on researcher as instrument, the psychological scientist as acting person, must lead us to seek better understanding of the interconnections of arts and sciences. There are of course many ways to take up exploration of the interconnections of arts and sciences and to consider their implications for psychology. My point is

or at worst intentionally and improperly erased in the service of a hard human science/natural science distinction.

[5] I make this distinction with some trepidation, for there are of course many differences to be found in different branches of the humanities, and arguably between arts and humanities.

not to suggest that the domains are identical or equivalent, for there are obviously different goals and "degrees of freedom" attached to the activities in question (Bronowski, 1961/1956). However, in exploring interconnections at the level of activity, we might better understand the grounds for the generation of resources across domains, wherein may be found the possibility of collaborative, broad-scale interdisciplinary problem-solving and more complex and adequate models.

A note on the terminology to be used throughout the chapters is an important conclusion to this one. In the project of reenvisioning psychology's epistemic priorities and conceptualizing these as a set of activities, I use terms such as *person, observation,* and *sense-making* that have long histories in and beyond the discipline of psychology, and thus carry with them a great deal of conceptual baggage. *Person* and *observation* have been particular targets in historical and critical studies (e.g., Danziger, 1997, 2013; Longino, 1983), thus their reintroduction in the context of a discussion on values may strike one as unusual, even jarring. Discussion of persons, what we might call "person-talk," at least in in theoretical psychology, typically includes reference to one or more of the following: intentionality, rationality, language use, rule-following, or individuality/particularity, depending on the context in and purpose for which "person" is invoked. There are deep controversies across contexts: the meaning of rationality; the centrality of unconscious processes; the primacy of linguistic or pictorial expression; whether personhood extends to all or merely a subset of human beings, and on what grounds; whether personhood extends to conscious nonhuman beings; how "person" relates to "self"; whether just plain folks engaged in everyday activities or exceptional persons accomplishing extraordinary feats of creative achievement are prototypical persons; and how persons relate to the goals and methods of natural science.

But the major terms central to this discussion have multiple contexts of use and thus a variety of meanings. My intent is to explore meanings that have been less frequently emphasized, especially by psychologists, but that carry important implications. Thus, for example, with reference to "persons" and "personhood," conceptual and ethical difficulties abound, given the variety of contexts of use of these terms and the historical association of "person" with various forms of societal privilege (e.g., see Stam, 1998; Danziger, 1997, 2013). Yet, agency, intentionality, language use, and a unique phenomenological point of view are conceptually linked historically with "persons," and on the basis of these features a substantial body of theoretical literature seeks to claim a more central place for persons in

psychology (Harré, 1992; Lamiell, 2009; Smythe, 1998; Martin & Bickhard, 2013; Martin, Sugarman, & Hickenbottom, 2010; Martin, 2017). No term is without its baggage, and therefore one might (as I do) use the term *person* with appreciation for the points of criticism raised, but with the intent to capture the particularized configuration of capacities and experiential core, the irreducible matter of "style" as it inflects even the most productive thought, as well as to emphasize the primacy of value.

The next chapter, *Science, Values, and Persons*, discusses the interrelation between the three topics named, and provides a framing for the subsequent chapters and the book as a whole. Chapters 3 through 5 each take up a category of activity and examine it in more detail, with focus on observing, imaginative sense-making, and perspective-taking. These chapters emphasize various meanings and suggest new ways of thinking about the value of the activity to psychology, for which reason it is here asserted to be an epistemic priority. The concluding chapter reiterates the emphasis on an acting person framework and on the project of reimagining epistemic priorities in accordance with it.