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Religion and Adult Development: Are There Postformal Stages in Religious Cognition? Theoretical Considerations, Empirical Evidence, and Promotion of Development in Adulthood

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In recent years there has been renewed interest in questions regarding religious and spiritual development, and their relationship to other domains of human development, in psychological science. One pioneering research domain in this developmental area of the psychology of religion explores whether there exist postformal stages in cognition pertaining to religious questions, and decision making where religious elements may be pertinent. In this article we demonstrate the utility of the model of hierarchical complexity in conducting research in this domain, showing the existence of postformal stages in adult populations, some images of religious “belief” in a postformal frame, and emerging patterns of postformal prospects among “gifted” young people. We consider some repercussions of models of human development and for working with young people and adults.

Keywords: religion, adult development, model of hierarchical complexity, postformal stage

What do we know about postformal stages in religious and spiritual development? The internal logic of any neo-Piagetian model would hold that postformal operations would be specific, with rare exceptions, to adulthood. Is their evidence from our research to endorse the classical developmental notion that increased capacity in psychological development brings with it good both for individuals (enhanced problem-solving and relational abilities), and for the broader social world they inhabit? Our research suggests there is, that the classical notion of individual development for social good (enhanced capacity for perspective taking, greater ability to listen and take into account the views of others and thus help individuals as well as groups face and solve multivariate problems, greater ability to grasp the developmental features in others’ thinking and thus, in professional as well as personal roles, help others

attain maximal growth in their own lives) holds in the domain of religious cognition, and its relationships to religious belief, belonging, spiritual practice, and moral development (Day, 2011a, 2013a, 2013b, 2013c, 2014; Toth-Gauthier & Day, 2015).

Psychologists have been successful in charting and measuring postformal operations of human perceiving, reasoning, knowing, judging, caring, feeling, and communicating (Commons & Pekker, 2005). Studies using the model of hierarchical complexity, have examined the question of postformal operations across several domains, including algebra, geometry, physics, moral decision making, legal judgments, and informed consent. Our own studies involving hundreds of adolescent, young adult, middle adult, and older adult participants in Belgium, England, and the United States drawn from self-described, committed, agnostic, atheist, Anglican, Buddhist, Muslim, Orthodox, Roman Catholic, and a broad variety of Protestant Christian groups, using our empirically valid and reliable Religious Cognition Questionnaire (RCQ), have validated the existence of postformal stages in cognition assessing and describing problems where religious elements and authority are invoked, and in the meaning people make of

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well-known spiritual sayings (Commons & Richards, 2003; Commons & Pekker, 2005; Day, 2008b, 2010, 2013a, 2013b, 2013c; Day, Richardson, & Commons, 2009a).

We hold (see Day, 2013a, 2013b, 2013c) with Commons and Richards (2003) and Commons and Pekker (2005) that there are four empirically verifiable postformal stages in cognitive complexity, including cognitive complexity in thinking about religion, and judging issues where religious elements are pertinent.

Postformal Stages in Cognitive Complexity

Systematic Order

At this stage subjects are able to discriminate the working of relationships between variables within an integrated system of tendencies and relationships. The objects of the relationships are formal operational relationships among variables. Commons asserted, on the basis of empirical validation studies, that probably only 20% of the American population are able to function at this level. Our research in samples of hundreds of Belgian, British, and American subjects in the domain of moral, religious, and spiritual development bear this out across the three countries studied.

Metasystematic Order

Subjects act on systems, and systems become the objects of metasystematic actions. The systems are made up of formal-operational relationships, and metasystematic actions compare, contrast, transform, and synthesize systems. Commons and Richards pointed out that research professors at top universities, whose work relies on their capacity to operate in this way, provide an example of this kind of cognitive operation in action, and some of its utility is not only for personal, but also for social good. In our own studies, we have found that some advanced graduate students, as well as people with doctoral degrees or who must conceive and direct research activities in their work settings, function at this level in moral and religious problem solving, and in their assessments of religious elements in moral decision making and ways of describing classical spiritual statements and axioms.

Paradigmatic Order

Here subjects are capable of creating new fields out of multiple metasystems. It follows logically that metasystems are the objects of paradigmatic actions, sometimes in ways that orchestrate new paradigms out of improvements made across metasystems which are themselves “incomplete” from a paradigmatic point of view. Commons and Richards (2003) cited the example of Maxwell’s equations (1817), which proved that electricity and magnetism were united, as an example of this kind of creative operation, and describe how such creative action may pave the way for further paradigmatic moves, citing, for example, Albert Einstein’s development of “curved space” to describe space–time relations, replacing Euclidean geometry with a new paradigm.

Cross-Paradigmatic Order

Subjects at this level of cognitive complexity operate on paradigms as objects of thought, creating a new field of thought, or radically transforming a previous one. If thinkers operating at this order of complexity are rare, ready examples from the history of science demonstrate the existence of such an order and its mechanisms and processes. Commons and Richards (2003) provided several persuasive examples, such as Rene Descartes’ coordination of paradigms in geometry, proof theory, algebra, and teleology, in developing the paradigm of analysis. In this vein, Commons and Richards (2003, p. 208) have also shown through studies that some subjects operate in this way when faced with problems designed for research in cognitive complexity. Rasch analysis can validate both the order of complexity of items and possible responses to them, on the orders of complexity represented in the four postformal stages, including this one (Day, 2008b, 2010, 2011a, 2013a, 2013b, 2013c, 2014).

Our studies show (Day, 2008a, 2010, 2013a, 2013b, 2013c, 2014; Day, Richardson, & Commons, 2009a, 2009b) that logical inferences in the study of postformal operations can be made in comparing stages of faith, and of religious judgment development, with stages in the Kohlbergian paradigm of moral judgment (Kohlberg, 1984, 1986). Stages in the psychology of religious development already shown, empirically,

to parallel Stages 4 and 5 in Kohlberg's model (i.e., Stages 4–6 in Fowler's model, and Stages 4 and 5 in Oser's; see Fowler, 1981, 1987, 1996; Fowler & Dell, 2006; Oser & Gmunder, 1991; Oser & Reich, 1996; Oser, Scarlett, & Buchner, 2006) qualify as postformal stages in faith and religious judgment development. Operations and structural components requiring the management of complexity and solving of problems at orders higher than those in Jean Piaget's descriptions and proofs of formal operational reasoning, have been devised and empirically examined, in cognition concerning religious concepts, beliefs, practices, and decisions where religious elements are taken into account. In the Louvain-Harvard Project in Cognitive Complexity and Religious Cognition we have shown that moral judgment stages and faith and religious judgment, parallel to moral judgment at Stage 4, would fall under the systemic stage, and those parallel at Stages 5 and 6 would fall under the metasystemic stage (Day, 2010, 2013a, 2013b, 2013c; Day et al., 2009a, 2009b). There is thus strong empirical evidence, from studies with hundreds of participants, across a variety of religious groups, and denominations within religious traditions, that there are stages in moral and religious cognition and thinking about spiritual sayings that qualify as postformal stages, and that these are specific, with the exception of a very small number of adolescents, to psychological development and learning in adulthood.

We have argued that in conducting this research we honor both the need to know more about religious and spiritual development and postformal stages of cognition in adulthood, and the longstanding concerns within the human development literature about the relationship of moral development to religious and spiritual development. For example, Kohlberg (1984, 1986) acknowledged the need for understanding postformal cognition in the moral domain when he argued that morality ultimately cannot explain itself. Kohlberg argued that theories of moral reasoning and moral judgment development cannot account for why one would decide to act on behalf of the good, or why one would make commitments to certain moral principles and try to effect their translation into potential forms of action. Knowing cognitively how to describe, justify, and advance such principles and their relationship to action, does not resolve

the question of why one would try to act on their behalf. In the language of postformal stage, Kohlberg imagined a paradigmatic stage, positioned as a seventh stage, in his hierarchy of stages of moral judgment. Kohlberg described this stage as a spiritual stage, articulated in the language issuing from the world's religious traditions, and related to their notions of wisdom, understanding, and perspective in relationship to morality. In this paradigmatic stage, the subject would construct a paradigm capable of operating on systems of moral reasoning, including hierarchies such as Kohlberg's model proposed. As Kohlberg put it, this constitutes a cosmological, and explicitly "spiritual" articulation of a transcendent logic providing motivation for moral action, and a standpoint from which action could be judged as good. This paradigmatic stage in Kohlberg's model forges an explicit connection between moral reasoning and religious concepts and systems, and in the language of the model of hierarchical complexity and, as we have outlined, a move from metasystemic to paradigmatic reasoning (Day, 2010, 2013c).

As we have pointed out, using the model of hierarchical complexity we have convincingly demonstrated (Bett, Ost, Day, & Robinett, 2008; Commons, Ost, Lins, Day, Ross, & Crist, 2007; Day, 2008a, 2008b, 2008c, 2011a, 2013a, 2013b, 2013c; Day, Commons, Betts, & Richardson, 2007) that it is possible to identify stages of cognitive operations involving religious questions and problem solving where religious authority is at issue, and have empirically validated the existence of systemic, metasystemic, and paradigmatic levels of reasoning. These levels parallel the uppermost stages in moral reasoning in Kohlberg's model (Day, 2013a, 2013b, 2013c; Day et al., 2009a, 2009b).

Postformal Stage and Religious "Belief"

What do religious belief, practice, spiritual disciplines, and faith experience resemble in persons who have attained postformal operations in reasoning about religious and spiritual issues?

In order to examine this question we conducted research in Belgium, England, and the United States with hundreds of subjects, using the Religious Cognition Questionnaire, associ-

ated with the model of hierarchical complexity, described earlier in this article and our other article in this special issue of *Behavioral Development Bulletin*, to measure stages of complexity in religious cognition, as well as standard measures of moral judgment and religious judgment. We identified subjects scoring at the postformal level of cognitive complexity in these three domains, and asked them to describe what religious or spiritual experience meant or was like to them, and how, if they identified themselves as religiously committed, they would describe religious belief. We then submitted transcripts of our interviews, and the subjects' written responses, to a thematic analysis, with three coders, achieving intercoder reliability of nearly 100%.

Rooted in, and Happening “Here,” but Pointing “Beyond”

Most striking was the language of nonliteral, or postliteral, description, believing “as if,” and generosity toward people who were not of the same religious group. Thus, subjects talked about the content of religious experience as something that at once re-enforced a sense of there being “core truth” in their religious traditions, but augured for a sense of transcendent, universalist, spiritual attitude—that the potential for such experience was available to all, regardless of their religious belonging, or formal nonreligious stances. “This happened to me, and I brought to it categories from the tradition in which I have been long rooted,” said one, “but this doesn’t mean the same kind of experience couldn’t happen to someone in another tradition, or to someone who is agnostic, or atheist.” “This experience was a kind of ‘disclosing,’” said another, “a manifesting of a reality, or presence, or sense of things, connecting all” . . . that

happened to occur here, to me, in my life, perhaps in part owing to being sensitized in my own tradition and pattern of faith, but by definition defies being captured or completely or adequately described in or by any one group.

Believing “as if”

Postformal stage subjects talked about religious “belief” in largely performative terms. “When I recite the creed I experience myself as participating in an act of belonging. I don’t take

the words or categories literally, but symbolically” said one. “I feel as much kinship with close friends who are atheist and agnostic, who are Muslim, Jew, and Buddhist, as I do with most of the people in my church, because of our sense of a deep, shared, spirituality,” said another. “Each of us” said another

in what I call my circle of ‘spiritual friends’ has come from a different ‘mother,’ a different tradition, but by grace we have known, and can share, a kind of transcendent spiritual reality that is there for, and can speak to, all, all who are open to it.

Another, whom we quoted elsewhere (Day, 2011a, p. 213), said,

In the end I think religion is as much about poetry, and poetics, and thus, about imagination, as it is ‘belief.’ It has to do with the conjuring of possible worlds, and the close attention to the data that might support such a conception of the cosmos, and of human action, and finally, to the kinds of commitments one makes in the hope of bringing such imaginary constructions to bear, and to fruition, in the world of everyday life. One holds belief and doubt in creative tension, and acts as if, or as though, the imagined world one hears of, feels drawn to, dwells in, more and more over time.

Still another reported

I ‘believe,’ that is, I find myself over and over again pledging myself into the form of a kind of religious imagination, because I have found it edifying so to do; edifying both for myself, and where this believing takes me in terms of experiencing the interconnectedness of elements in myself, and myself with all that lives in the world, and edifying in terms of my sensitivity to, and capacity to respond appropriately—at least I hope I do and others say I do—to the needs and suffering of others, and of the complex world we live in.

Stage, Structure, Complexity, and the “Gifted”: An Example of Basic Research, With Practical Consequences, for Developmental “Good”

Some readers may wonder whether and how knowledge about cognitive complexity, religious cognition, and postformal stage may count for good. One can of course imagine many practical applications for coaching, counseling, professional training, and continuing education, classroom pedagogy, and psychotherapy. In the following paragraphs we consider research showing applications for “gifted” young people, drawn from our research with hundreds of adolescents in Belgium and France, which we find particularly fascinating for con-

sidering nascent postformal cognition in the domains of moral and religious functioning, and promising both for further research and for thinking about how to support emerging movement toward postformal reasoning both for individual well-being and for the ways such individuals and reasoning can be resources for their communities.

In the most recent, relevant, review of the literature on questions and empirical data regarding the “gifted” (Toth-Gauthier & Day, 2015), we showed that recent decades have seen a significant rise in the number of studies focusing on “gifted” children, adolescents, and adults: their cognitive and emotional functioning, and educational strategies that might support their cognitive, affective, and social development. There is general agreement that scores superior to 130 on standard measures of intelligence, such as the Wechsler Intelligence Scale for Children (WISC–III and WISC–IV) and the Wechsler Adult Intelligence Scale (WAIS–III and WAIS–IV) constitute the baseline criterion for some to qualify as “gifted” (Grégoire, 2010; Grégoire, Vlieghe, Lebrun, 2010). Meanwhile, cognitive ability measured by IQ is not the only element characterizing the functioning of gifted individuals. Costa and McCrae (2007) showed that the gifted are more likely to entertain novel ideas, and to adopt nonconventional attitudes and values compared to their nongifted peers. Piirto, Montgomery, and May (2008) demonstrated that intellectually gifted subjects showed significantly higher levels of emotional hyperstimulability. Kalbfleisch (2009) showed that elevated IQ levels in the gifted range were associated with precocity of maturation in the frontal cortex region of the brain. They furthermore showed that this earlier brain development was associated with gifted children’s and adolescents’ capacity to perceive with exceptional clarity and lucidity elements in the world and in social functioning which largely escaped the notice of their nongifted peers. This is consistent with Gregoire’s (2009) assertion that gifted persons’ cognition is characterized by reflexive thinking, and Gregoire et al.’s (2010) finding that gifted individuals obtained significantly higher scores on “openness” measures of personality on the Brief Big Five scale. Kieboom (2011) clearly showed that gifted people show a particularly acute and more highly developed concern with questions of social justice. Silver-

man (2013) remarked that the development of gifted children and adolescents is characterized by asynchronous patterns; if their intellectual development is markedly accelerated compared with nongifted peers, their emotional development is not. If anecdotal evidence reported in the clinical and popular literature has for years suggested that gifted children, adolescents, and adults were particularly given to preoccupations with classical philosophical and religious questions, and were more concerned than most of their peers with questions and events involving justice and injustice, and that in many cases they suffered on this account and were a source of consternation and concern to their peers, parents, siblings, and teachers, there has been little or no empirical evidence, until now, to support this observation.

Our rigorous testing of the question whether “gifted” young people were more likely to be preoccupied with moral and religious questions, and whether they would have higher scores on measures of moral judgment, religious judgment, and complexity in religious cognition, yielded strong confirmation that they were; in the qualitative part of our research, where adolescents were asked to talk about what they found themselves thinking about most in life, all the gifted adolescents talked about moral concerns, moral problems at school and in the world, questions of what was fair and unfair, and how to be a more caring person. They also talked, regardless of their religious upbringing (atheist, agnostic, Protestant, Catholic, in our sample) about classical religious themes and questions—whether there is ultimate meaning and purpose in the world, and in human life, whether there is an ultimate source of concern in the universe that we can know and that cares about human life, whether any religion is “true,” and their frustrations with the limits of traditional religion, talking about spirituality as something distinct from religion. Many felt a keen sense of loneliness, isolation, alienation, and being, unhappily, different, from their peers, whom they felt neither shared their concerns nor had a shared vocabulary for discussing elements relevant to them. It lies beyond the scope of this article to go into the detail of our design and statistical methods in assessing stage, but it is important to note that the “gifted” young people uniformly had higher scores on all the measures—moral judgment, religious judg-

ment, and cognitive complexity in thinking about religious issues. Readers interested in this detail have access to it in a previous issue of this journal (Toth-Gauthier & Day, 2015). Thanks to these findings, we are now being asked to work with parents' groups, teachers of philosophy, religion, and citizenship education, in the schools, guidance personnel, psychologists, and with the Belgian government in devising strategies aimed at supporting and further nurturing both the personal development, and social integration and adaptation of gifted young people, in order to diminish suffering and enhance their prospering, and their potential for contributing, with their rich intellectual, moral, and spiritual resources, to the broader social worlds of which they are and will be, as adults, part.

Postformal Stages and Religious Development in Adulthood

This article has reviewed some of the relevant literature in psychological science on postformal stages in cognition, and described some research where hypotheses regarding postformal stages in religious cognition were examined. We have shown, drawing from empirical research using the model of hierarchical complexity, and our own Religious Cognition Questionnaire, that there are postformal stages in religious reasoning, that these stages confirm but with increased rigor the insights from other models, including Kohlberg's claims regarding a possible seventh stage in moral reasoning, and the highest stages in Fowler's model of faith development and Oser's model of religious judgment development. Through a rigorous examination of postformal-stage research subjects' descriptions of religious belief, we have also shown that interviewees at these stages in religious reasoning describe religious "belief" in distinctly postliterate terms, describing religion as an imaginative, poetical, and edifying set of practices in belief and action that are, for them, "true" in experiential and moral terms, rather than narrowly conceived epistemological ones.

We have also described how research projects comparing gifted adolescents and their "normal" peers show nascent patterns of postformal cognition in moral and religious cognition, at significantly higher stage levels for the gifted young people studied: young people who

apart from their higher scores on cognitive complexity levels in moral and religious cognition, also show significantly greater interest, concern, and engagement with moral and classically religious—what they often describe as "spiritual" questions, than do their peers.

Much remains to be done in comparing and contrasting these models, rooted in the neo-Piagetian, cognitive-developmental tradition, with other ones. We have elsewhere insisted on a broad-based approach that would encompass attachment theory and research, object relations models, narrative psychological theory, and related dialogical-discursive methods, in thinking about, and nurturing, positive development in adulthood. Interested readers can find more elaborate investigations of these models and ways of comparing them with cognitive developmental ones elsewhere (e.g., Brandt & Day, 2013; Day, 1993, 1994, 2001, 2002, 2013c, 2014; Day & Jesus, 2013; Kalsched, 2013; Robison, 2013).

Postformal reasoning, and postformal cognition in the psychology of religion, represent exciting frontiers for understanding development in adulthood, and resources for enhancing positive adult development. We hope our research will enhance this understanding, and contribute to the development and well-being of individuals and communities in our complex world.

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