The Call of the Wild: Zookeepers, Callings, and the Double-edged Sword of Deeply Meaningful Work

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A qualitative examination of work meaning in the zookeeping profession pointed to the centrality of the notion of work as a personal calling. The view of calling expressed by zookeepers, however, was closer in basic structure to the classical conceptualization of the Protestant reformers than it was to more recent formulations. We used qualitative data from interviews with U.S. zookeepers to develop hypotheses about the implications of this neoclassical conceptualization of calling for the relationship between individuals and their work. We found that a neoclassical calling is both binding and ennobling. On one hand, zookeepers with a sense of calling strongly identified with and found broader meaning and significance in their work and occupation. On the other hand, they were more likely to see their work as a moral duty, to sacrifice pay, personal time, and comfort for their work, and to hold their zoo to a higher standard. Results of a survey of zookeepers from 157 different zoos in the U.S. and Canada supported the hypotheses from our emergent theory. These results reveal the ways in which deeply meaningful work can become a double-edged sword.

To better understand the nature and characteristics of deeply meaningful work, a small but growing number of management scholars have looked to the notion of work as a personal calling (Bellah et al., 1985; Wrzesniewski et al., 1997; Dobrow, 2004; Hall and Chandler, 2005; Dik and Duffy, 2009). These scholars began with the assumption that work done solely for economic or career advancement reasons is unlikely to inspire a sense of significance, purpose, or transcendent meaning. When viewed as one's calling, however, work assumes both personal and social significance (Pratt and Ashforth, 2003). Scholars have suggested that a sense of calling may offer the "strongest" (Bellah et al., 1985: 66), most "extreme" (Dobrow, 2004: B1), or "deepest" (Hall and Chandler, 2005: 160) route to truly meaningful work (see also Ciulla, 2000: 52; Pratt and Ashforth, 2003: 320; Wrzesniewski, 2003: 302). Consistent with this assumption, research has suggested that individuals who view their work as a calling are more satisfied with their work and career (Wrzesniewski et al., 1997; Dobrow, 2006; Duffy and Sedlacek, 2007), experience greater life satisfaction (Wrzesniewski et al., 1997), and are less likely to suffer from stress, depression, and conflict between work and nonwork (Treadgold, 1999; Oates, Hall, and Anderson, 2005).

Although scholarly interest in work as a calling is a recent phenomenon in the management literature, the concept has very deep roots in Western cultural and religious traditions. Throughout most of the history of the Western world, the idea that work was anything but an unfortunate drudgery would have been a foreign concept. To the ancient Greeks, work was a curse that prevented humankind from engaging in the more sublime and worthwhile pursuits of the mind and spirit, a view that continued to dominate philosophical and religious teachings throughout the Middle Ages (Arendt, 1958; Hardy, 1990). The Protestant Reformation dramatically altered this negative view. Before the Protestant Reformation, the term "calling" was used to refer either to a specific call to

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the ministry or to the universal call of the gospel (see Weber, 1930, for a detailed history of the term). Martin Luther broadened the definition of calling to refer to any station that one might occupy in the world of productive work and suggested that through faithful execution of one's duties in that station, one both pleased God and contributed to the general welfare of humankind. So by working diligently to make shoes that will cover and warm human feet, the cobbler serves God in his or her station with just as much divine approbation as the person whose station it is to preach the word of God. With the specific exceptions of the prostitute, the usurer, and the totally cloistered monk (Luther, 1883: 317), all work can be a divine calling by which a person "participates in God's ongoing providence for the human race" (Hardy, 1990: 47), and "every legitimate calling has exactly the same worth in the sight of God" (Weber, 1930: 41).

Luther's concept of calling elevated work by transforming it from a necessary evil into a divine offering. Subsequent refinements by John Calvin and others exalted work further by making this offering uniquely personal. Calvin taught that one's calling did not derive simply from one's given station in life, as suggested by Luther (Weber, 1930: 85), but also from one's particular, God-given gifts and talents (Hardy, 1990: 66). One's calling is found where one can use these gifts and talents for the good of humankind. Each person therefore has a solemn duty to discover and embrace his or her particular calling, "For as God bestows any ability or gift upon any of us, he binds us to such as have need of us and as we are able to help" (Calvin, 1574: 307). Weber (1930: 106) summarized it this way: "For everyone without exception God's Providence has prepared a calling, which he should profess and in which he should labour. And this calling is . . . God's commandment to the individual to work for the divine glory."

In classic formulations, then, calling is that place in the world of productive work that one was created, designed, or destined to fill by virtue of God-given gifts and talents and the opportunities presented by one's station in life. It assumes a world of productive work in which individuals specialize for the benefit of the whole, i.e., an occupational division of labor (Durkheim, 1984). It acknowledges that individuals are differentially suited for these various specializations by virtue of their particular talents and station in life. And it places on individuals a solemn obligation to seek their calling and to make whatever sacrifices might be required to diligently and faithfully fulfill the duties associated with it for the glory of God and the welfare of the human family.

According to Weber (1930: 109), these Reformation views on the "importance of a fixed calling" have diffused throughout Western culture to provide "an ethical justification of the modern specialized division of labour." As part of that diffusion, the concept of calling became secularized, and the role of a divine being in preparing and overseeing callings faded from mainstream discourse (Rodgers, 1978: 9), though many Americans continue to embrace the traditional view that God calls everyone to develop their strengths (Gallup, 2003; Winseman, 2005). The general notion of work as a calling persisted, however, embedded within the ideologies that

rationalize modern work. As a result, "atheists and agnostics and those who are just not particularly religious . . . are likely to have just as strong a sense of calling as religious persons, although they would not use the word *God*" (Novak, 1996: 39). This is what Weber (1930: 124) meant in asserting that "the idea of duty in one's calling prowls about in our lives like the ghost of dead religious beliefs."

Though scholars generally agree that the idea of work as a calling remains relevant in contemporary society, there is little consensus around the defining elements of a modern, secularized version of calling. So, for example, whereas Bellah et al. (1985: 66) characterized a calling as something performed for its own sake, for the personal meaning and value associated with it, Wrzesniewski (2003: 301) argued that a calling should have societal and not just personal significance, that callings are "associated with the belief that the work contributes to the greater good and makes the world a better place." And whereas some formulations view a calling as work one chooses to do out of personal passion (e.g., Dobrow, 2006), others view calling as something more fundamental, as "work that a person perceives as his purpose in life" (Hall and Chandler, 2005: 160) or even as "a transcendent summons" to a particular line of work (Duffy and Sedlacek, 2007: 591). Although these various conceptualizations all agree that work viewed as a calling is something deeply personal, they clearly disagree about the core, defining elements of the calling experience. Moreover, these contemporary formulations also differ in important ways from the classical conceptualization described above. Whereas the classical conceptualization is grounded in notions of destined place and personal duty, recent conceptualizations tend to emphasize self-actualization and personal passion (see Baumeister, 1991; Novak, 1996). As a result, it is still not clear what the concept of calling looks like in contemporary society, and without clarity around the fundamental nature of calling, it becomes difficult to predict how experiencing one's work as a calling will affect attitudes and behaviors. A pressing conceptual question within this domain of research, then, involves "how to characterize the key facets of a calling and how to distinguish it from separate, but similar, constructs" (Hall and Chandler, 2005: 161). Our goal in this paper was to address this question through a grounded, in-depth examination of calling and its consequences in one group of modern workers for whom a sense of calling is salient: the profession of zookeeping. Such an analysis, missing from the current literature, can provide important insights into how modern workers actually use the concept of calling to make sense of their work and how framing work as a calling affects the relationship between individuals and their work.

FINDING CALLING AT THE ZOO

Our interest in work as a calling emerged from our research on employees who work not merely for economic or socioemotional reasons but primarily for their passion toward a cause or ideology (Thompson and Bunderson, 2003), and our efforts to understand this phenomenon led us to the zoo. There are 4,680 "nonfarm animal caretakers" (i.e., zookeepers) working at over 210 zoos and aquariums in the United States

(U.S. Bureau of Labor Statistics, 2004). As a group, zookeepers are highly educated (82 percent have a college degree) but very poorly paid (average annual income of $24,640; lowest quartile of U.S. occupations in terms of hourly wage) (Hansen, 2000; Buckley, 2002; U.S. Bureau of Labor Statistics, 2004). Furthermore, the zookeeping profession is not rich with opportunities for advancement and status. Most zoos offer few opportunities for hierarchical advancement beyond head keeper, a team leader who adds some supervisory responsibilities to animal care duties in exchange for a small pay increase. And though a degree of glamour or celebrity does accompany working with exotic animals, much of zookeepers' work—cleaning animal feces, scrubbing enclosures, feeding animals—can be classified as "dirty work" (Ashforth and Kreiner, 1999). An experience shared by a zookeeper we interviewed underscores this dirty-work perception: "A nun came by with a school group and the nun said, 'See the kind of job that you get when you don't finish your education!' This was within earshot." This perception is particularly ironic given that four of every five zookeepers have a college degree.

In spite of the apparent lack of economic and status or advancement incentives associated with zookeeping, many people are so eager to work in the profession that they volunteer for months or years before securing a position. Moreover, many zookeepers express an astounding level of commitment to their work, evident in comments like the following: "There's not much that they could do to get me to quit"; "I can't think what would cause me to leave"; and "Well, I don't know what they could do that would make me leave. Even if I wasn't getting paid I would still be here." Given these characteristics, we concluded that the zookeeping profession would be an ideal context in which to study people who work for passion rather than for pay or advancement.

We began our research with semi-structured exploratory interviews at a leading public zoo in the Midwest. We interviewed 23 zookeepers who volunteered for participation after we issued an open invitation in a staff meeting. We asked interviewees to tell us how they got into zookeeping, how they think and feel about their work, how they think and feel about their organization, and about their interactions with others at the zoo. We also invited them to discuss any other issues of perceived relevance. Interviews lasted an average of 40–50 minutes and were tape recorded and transcribed.

We analyzed our interview data using a grounded theory approach (Glaser and Strauss, 1967; Locke, 2001). We first read through all of the interviews and sorted comments into an emergent set of topical categories, comparing notes after each set of four to five interviews. After several iterations through the entire set of interviews, we reached a point of saturation at which we had a category for every comment. A research assistant, blind to the purpose of the study, then coded all interviews into these categories. A second research assistant coded a subset of these interviews. Cohen's kappa across coders was .77.

Although we did not begin our investigation with a focus on work as a calling, comments reflecting a sense of calling

emerged as the most frequently coded category in these data. These comments reflected a belief that zookeeping was one's calling, one's niche, what one was meant to do, or part of who one has always been. This theme emerged in fully 21 of 23 separate interviews (91 percent). Sample comments included "I knew this is what I was meant to do"; "It's kind of like my calling, I think"; "I've found my little niche"; and "It's a calling for me." The next most frequently coded categories in these data concerned statements that the interviewee was not motivated by money (16 of 23 interviews) but was motivated by a commitment to the animals (also 16 of 23 interviews).

Given these initial results, it became apparent that if we were to understand why zookeepers are so dedicated to a low-paying, limited-status job, we needed to better understand their sense of calling. We therefore undertook a more in-depth content analysis of our interviews to articulate their view of calling and how it informed the way they thought about their work. As common themes began to emerge, we consulted a variety of related literatures to find theoretical precedents that might help to explain what we were seeing. The end result was an articulation of the concept of calling as experienced by zookeepers, along with a set of testable hypotheses about how calling informed the way they related to and thought about their work.

The Meaning of Calling for Zookeepers

The idea of a calling for the zookeepers in our study was grounded in the belief that their basic nature, their "hardwiring," if you will, predisposed them for a career working with animals. Many simply made comments like "I have always loved animals" (seven interviews) or "I have always wanted to work with animals" (seven interviews). But others went on to share stories demonstrating that a love for animals is, and always has been, a part of their basic nature:

> It's a calling for me just because my whole life I've just been interested in animals. So looking back I should have known at some time I would be working with animals.

> It's a part of who I am and I don't know if I can explain that. When you use that expression "it's in your blood," like football coaches and players can never retire because it's in their blood. Whatever my genetic makeup is, I'm geared towards animals.

> I was always interested in animals ever since I was a kid. I drove my mom nuts catching bugs and worms and frogs and salamanders, bringing home anything I could find . . . butterflies, stuff like that.

> I slept and ate and read reptiles when I was a little boy. I thought that's all there was. . . . Most boys my age, all they thought about was girls. Well, I thought about girls and reptiles.

> I just always had every pet you could imagine—dogs, cats, hamsters, gerbils, birds, reptiles of different sorts. I've always had an interest in animals and I said the zoo would be a good place to work.

These stories reflect an assumption that people who go into zookeeping are somehow wired differently from other people and that these differences suit them (and not others) for a

career in zookeeping (or otherwise working with animals). Several zookeepers explicitly articulated this notion:

[Zookeepers] relate better to animals than they do to people. But then sometimes I think you're just born an animal person.

I'm good at animal training because I have intuition with the animals. I can see something in their behavior that other people wouldn't notice.

When it comes to working with elephants, either you have it or you don't.

I'm more suited to working with animals than people.

I naturally wanted to stay here because I had a gift.

At the heart of the calling notion for these zookeepers, then, is a sense that they were born with gifts and talents that predisposed them to work in an animal-related occupation. As in the classical conceptualization, their sense of calling was therefore grounded in a perceived connection between personal passions and endowments and particular domains of work for which those passions and endowments seem particularly well-suited (e.g., "It's a calling for me just because my whole life I've just been interested in animals"). In forging this connection, zookeepers constructed a sensible narrative of occupational place by consulting and perhaps selectively interpreting their personal history to discover evidence of particular passions and endowments. This exercise reflected basic needs for self-consistency and self-efficacy (see Erez and Earley, 1993; Weick, 1995). In constructing a narrative of occupational place, a zookeeper presumes and seeks to establish a pattern of behavior that confirms a stable and coherent sense of self (I have always been attracted to this type of work) as well as a self that is competent and efficacious in a particular domain of work (I am especially good at this sort of thing) (see Lecky, 1945; Markus, 1977).

The idea that one was born to work with animals implies that one's calling as a zookeeper, or perhaps in some related animal care field, was always there waiting to be discovered. Zookeepers with a calling did not look around and choose zookeeping as a profession; zookeeping was always the "right" profession for them and they simply had to discover this fact. There was therefore a sense of inevitability about their discovery, as if they were destined to find their calling eventually (e.g., "So looking back I should have known at some time I would be working with animals"). This sense of destiny or fate was strikingly revealed in frequent narratives about the unusual circumstances that led an individual to zookeeping:

I was here two days and I knew this is what I was meant to do. There's people that have volunteered here for years and they don't get a job, and I worked here a month and a half. So it's kind of like my calling I think.

I've always read a lot about all different kinds of things and it kind of led me here. It was magical in a way.

So things kind of worked out the way they should . . . I kind of fell into this. Things just worked out real well.

I just fell into the right places. And I'll admit being where I am right now is 50 percent pushing me to go in a certain direction and 50 percent luck. I mean that part-time job I got when I first came here, I had nothing to do with it.

Three months before I graduated I was offered a full time job in [my] department. I understand that's the only time that department has ever been offered in that way.

These stories reflect a belief that events transpired in some remarkable way to bring the individual to zookeeping, as if the individual were, to use the zookeepers' words, being "led" or "pushed" into the "right places." And zookeepers presented this conspicuous convergence of events as evidence that zookeeping truly is their calling. Moreover, this perception was not restricted to just a few zookeepers. An additional eleven zookeepers beyond those cited above expressed the belief that they had been especially "lucky" or "fortunate" in landing their job or that their hiring had come about in some unusual way.

The zookeepers' characterization of calling as revealed through a fortuitous or inevitable unfolding of circumstances is again reminiscent of the classical conceptualization of calling and particularly of Luther's notion that callings are to be found through the circumstances associated with one's station in life. One looked for the hand of God in the events leading up to a particular occupational choice as evidence that one had found his or her calling. None of the zookeepers with whom we spoke attributed their occupational choice to guidance by a divine being. Nevertheless, they did look for and find the hand of fate, destiny, or simple inevitability in the events leading up to their choice of zookeeping as evidence that they had found their calling.

In essential structure, then, zookeepers' experience of calling was very similar to the classical conceptualization. We defined the classical conceptualization above as that place in the world of productive work that one was created, designed, or destined to fill by virtue of God-given gifts and talents and the opportunities presented by one's station in life. This same definition, with slight modification, captures the experience of "neoclassical" calling described by these zookeepers: one's calling is that place in the occupational division of labor in society that one feels destined to fill by virtue of particular gifts, talents, and/or idiosyncratic life opportunities.

The Consequences of Calling at Work

The experience of calling for these zookeepers, then, was fundamentally about finding one's destined place in society and, more specifically, within the occupational division of specialized labor. Our analysis further suggested that by providing this sense of destined occupational place, a calling had far-reaching implications for the way zookeepers thought about their identity, role, and role requirements at work. But whereas the recent research discussed above has almost exclusively emphasized the positive implications of calling (e.g., meaning and purpose), our interviews with zookeepers suggested that the benefits of a calling do not come without costs. A sense of calling complicates the relationship between zookeepers and their work, fostering a sense of

occupational identification, transcendent meaning, and occupational importance, on the one hand, and unbending duty, personal sacrifice, and heightened vigilance, on the other. Our investigations among this sample of zookeepers therefore suggest that a calling can be a painfully double-edged sword.

The positive edge: Identification, meaning, and importance. By virtue of the perception that one is hardwired to be an animal person, calling fostered a powerful sense of kinship among zookeepers, a sense that not only does one do the same sort of work as other zookeepers but, more fundamentally, one is the same sort of person. In the words of one zookeeper, "We always kind of call ourselves blood brothers." A calling therefore provides a compelling basis for identification with the occupation of zookeeping, a feeling of oneness with the other members of that occupational community (Dobrow, 2004). As Bellah et al. (1985: 69) explained, "Committing one's self to becoming a 'good' carpenter, craftsman, doctor, scientist, or artist anchors the self within a community practicing carpentry, medicine, or art." In this way, occupational membership becomes "the richest sort of material for a common [i.e., socially connected] life" (Durkheim, 1951: 578). We therefore hypothesize:

Hypothesis 1: A sense of calling is positively associated with occupational identification.

Moreover, through their identification with the occupation, zookeepers derive a conviction of the significance of their work in society. Every occupational community develops a set of beliefs about the importance of its work to society and articulates an ideology to explain and justify that importance (Van Maanen and Barley, 1984; Trice, 1993). By identifying with the zookeeping community, individual zookeepers come to embrace the beliefs and ideologies of that community as their own and can therefore draw on these beliefs and ideologies to assign both personal meaning and social significance to their work. As Mead (1934: 219) put it, "The individual, by entering into that new community, has, by his step in making himself a member, by his experience of identification, taken on the value that belongs to all members of that community." In short, by granting access to the beliefs and ideologies of the occupation, occupational identification mediates the relationship between a sense of calling and one's belief that (a) my work is meaningful and important, and (b) our work (i.e., the work of the occupation) is important to society.

In zookeeping, the case for occupational significance derives from an ideology of wildlife conservation and global biodiversity. As animal habitats are being destroyed throughout the world, animal species are increasingly becoming endangered or extinct. Zoos help to prevent species extinction by housing, feeding, and breeding endangered species so that biodiversity is preserved and perpetuated. Zoos also work to educate the public about animal conservation issues in order to change destructive habits. So whereas zoos may have once existed primarily for entertainment, modern zoos see themselves as serious conservation organizations that are leading the global fight against species extinction (Croke, 1997). Zookeepers participate in this broader social purpose by providing basic

care for captive animals, by helping to enrich the captive experience, by supporting breeding efforts, and by helping to educate the public. As several said,

> My little way of preserving what we have left is taking care of these animals. I'm not one of those people to go out in the jungle and tell people don't do this, this is bad. That's not me. . . . This is my life.

> Most people think, "Oh, you should just turn these animals loose in the wild." Well, hey, there is no wild for a lot of these animals, none whatsoever. The habitat is gone. Sure you can go turn them loose but they're not going to find their niche because it's been removed. [We've] got to do something, and if captive breeding is the one thing I can do to stop extinction, then I'm fine with that.

> I'd trained these penguins to swim more because that was a problem. . . . There would be penguins sitting around like they normally do, just sitting there. Then you'll have their feeding session when they're all swimming and it just crowds up, completely fills up with people. And then you see all the people dragging their kids away, but they want to stay. That's what you want—people to have a good time. When a person feels that way about animals then everyone is likely to be conservation-minded out of the zoo. They may want to recycle or they may want to donate to an animal fund. That's what kind of drives me in a lot of ways because when I trained those penguins I made millions of people's day, probably enlightened a bunch of kids about penguins.

The centrality of these ideological beliefs to the experience of zookeeping became very apparent when we asked zookeepers to share any aspects of their work in which they felt particular pride. The most common response to that question had to do with animal births and breeding: "I find when we get stuff reproduced, that's rewarding," "Yes, we had a baby elephant birth here," or "The last [species of animal] that was conceived and born in captivity was over 100 years ago and we're getting ready to do it again. Who couldn't get excited?!" These responses not only suggest that breeding endangered species is central to these zookeepers' conception of what truly matters in their work, they also illustrate one way in which the successes of their occupational community in pursuing this ideology become personal successes.

In short, by fostering identification with the zookeeping community and its ideologies, a calling provides zookeepers with the ideological means to construct both a sense of work meaning (my work is significant) as well as a sense of occupational importance (our work is significant). A calling thereby infuses even the most trivial and unpleasant tasks with transcendent meaning and significance. As one zookeeper put it, "And that's the thing about this job is anything I do is ultimately for the animals, even if it's scrubbing down the back hallways." And when work achieves this level of deep personal significance, it becomes something truly special: "I feel pretty darn special. . . . If I wasn't here or I lost this job for some reason, it would definitely take a toll on me." We therefore hypothesize:

Hypothesis 2: Occupational identification mediates a positive relationship between a sense of calling and the perceived meaningfulness of one's work.

Hypothesis 3: Occupational identification mediates a positive relationship between a sense of calling and the perceived social importance of one's occupation.

The sharper edge: Moral duty, personal sacrifice, and vigilance. Though a sense of calling was clearly associated with meaning and significance for the zookeepers we interviewed, those positive outcomes came with significant costs and burdens. These costs and burdens were grounded in a strong sense of personal moral duty that flowed naturally from the way zookeepers framed their calling. If one feels hardwired for particular work and that destiny has led one to it, then rejecting that calling would be more than just an occupational choice; it would be a moral failure, a negligent abandonment of those who have need of one's gifts, talents, and efforts. Obligation was central to the classical Calvinist conceptualization of calling, wherein people have a God-given duty to use their gifts for the benefit of others (Calvin, 1574). Durkheim (1984) and Weber (1930) also emphasized the moral implications of specialization in the occupational division of labor (see also Jones, 1986: 28). Calling as articulated by these zookeepers clearly retained this element of moral obligation to use one's particular gifts to benefit those in need of those gifts.

Those in need of the unique gifts and talents possessed by zookeepers include not just human society, which has both an instrumental and moral need to conserve and protect the planet, but also the animals themselves, which have more immediate needs related to health and well-being. A calling as a zookeeper implies a moral duty to leverage one's unique gifts and passions to help humankind "save the planet," specifically by helping to preserve and care for captive animals. This deep sense of moral obligation associated with animal care was reflected in our interviews:

> The animals never chose to be here and it's our responsibility to come in and give them the care that they need and make sure that they're healthy and happy.

> There's a quote that I read somewhere that says that we become responsible for that we have obtained. That's kind of how I look at it. We obtained these animals . . . I mean, they have no other choice. . . . They're stuck here. So I have to do what's best for them.

> If I don't stay then who's going to be here to make sure that the animals are taken care of the way I want them to be taken care of? I'm here for that.

> I owe the animals here at the zoo. It's my job to make sure that these animals are properly taken care of just like one of my kids.

The underlying theme in these quotes is that we humans must care for and preserve captive animals and that if zookeepers, with their unique passions and endowments, don't do it, nobody will. Our analysis therefore suggested the following, formal hypothesis about the relationship between calling and moral duty.

Hypothesis 4: A sense of calling is positively associated with the belief that faithful execution of one's work is a moral duty.

As with occupational identification, this sense of moral duty had both personal (my work) and collective (our work) implications for how zookeepers thought about their work. At a personal level, a sense of moral duty to society and to one's animals implies that zookeepers should be willing to make whatever personal sacrifices are required to perform their work. These personal sacrifices begin with pay. Many of the zookeepers we interviewed acknowledged that monetary sacrifices are part of the price they pay to be a zookeeper. As we heard in our interviews,

> If my wife didn't have a better job than me I couldn't live on what I make here. I could not support our family or anything. . . . I don't do it for the money. I mean I knew at 18 years old there wasn't any money in animal keeping.

> Money is not an issue for me working here. I'm making $9 an hour and every day I drive past Subway and on their little leader board out front: Hiring starting at $9 an hour. I make as much as someone at McDonald's does. I'm certainly not doing it for the money.

> Basically poverty wages. We had at least one person on food stamps. We have a lot of people working two jobs. I know of one keeper here working three jobs to make ends meet.

> We don't get paid very well here. Actually, I work another job. I work seven days a week. I work two days at the art museum just to make ends meet. But I guess that's the payoff for doing what you love. I volunteered here for free for a year and a half.

But the sacrifices associated with zookeeping go beyond just pay. Zookeeping can be physically demanding, dangerous, and uncomfortable work. The following quotes illustrate some of the physical sacrifices associated with zookeeping:

> You go home and you're absolutely exhausted and you don't feel like doing anything. It's a back breaker.

> So if it's raining outside and I have to clean exhibits, I get wet. If it's cold and it's snowy, I'm going to be cold and snowy.

> When you're the first one to walk into the gorilla building in the morning and it hasn't been cleaned since over night, you don't need coffee to wake you up in the morning, believe me! Not everybody can handle it.

> If you make a mistake you can not only get yourself or your coworker killed, you can kill one of these animals because they're very high strung.

Finally, zookeeping also requires sacrifices of personal and nonwork time. Zookeepers are essentially on call to come in at any time outside of regular work hours if there is a problem with their animals. As a result, zookeeping can spill over into nonwork time and can strain nonwork relationships:

> When the nightwatch calls me up and says we've got a problem in your building, I'm out of bed and I'm in here.

> . . . to be willing to come in here in the middle of the night if something is going on and be willing to skip a break or two and be willing to not call in sick as much as somebody might at some other job.

> Working here at the zoo has cost me a marriage.

Our interviews with zookeepers therefore suggest that by framing one's work as a moral duty, a sense of calling implies that one should be willing to make sacrifices for his or her work. Thus we hypothesize:

Hypothesis 5: A belief that one's work is a moral duty mediates a positive relationship between a sense of calling and a willingness to sacrifice for one's work.

A troubling implication of this hypothesis is that it suggests that those with a sense of calling will be vulnerable to exploitation by management because unfavorable pay, benefits, or working conditions are likely to be construed as simply another sacrifice one must make to pursue a calling. Several zookeepers we interviewed alluded to this vulnerability. As one said, "They [managers] know that you're going to do [the work], so why free that money for this, or why go that extra mile?" Some zookeepers even talked about trying to camouflage their commitment in order to avoid this vulnerability. One told us, "I would not tell them [how committed I am] because they can get a strong hold on you that way. If management knows you love your job, they'll try to do things to undercut your pay and stuff like that." But ultimately, the risk of exploitation is accepted as simply another sacrifice one makes to pursue a calling: "I don't know what they [management] could do that would make me leave. Even if I wasn't getting paid I would still be here."

But whereas a sense of calling may lead to a grudging acceptance of perceived mistreatment by management, it also makes zookeepers less accepting of perceived mistreatment of the animals due to management's action or inaction. These heightened expectations toward zoo management emerge naturally from the aforementioned assumption that providing quality care for captive animals is a moral duty for those with a calling. Put simply, the stronger the zookeepers' sense of moral duty, the more likely they are to feel that their zoo, as a social institution that has assumed ownership of captive animals, is similarly "responsible for that we have obtained" (a zookeeper's comment) and therefore has a similar moral duty related to animal care, whether the zoo's management acknowledges that duty or not. By fostering a sense of personal moral duty toward one's work, a calling therefore strengthens the belief that one's employing organization and its management (i.e., "we" as a collective) also have a moral duty to make possible the faithful execution of that work.

Hypothesis 6: A belief that one's work is a moral duty mediates a positive relationship between a sense of calling and a belief that one's employing organization also has a moral duty related to the work.

Because they believe their zoo has a moral duty related to animal care and preservation, zookeepers with a sense of calling judge management's actions and decisions against a very high standard. Specifically, they evaluate management's decisions based on whether those decisions reflect a primary concern for animal welfare and do not compromise the animals in addressing other business interests, such as creating an entertaining experience for zoo visitors (e.g., by investing in non-animal-related amenities and diversions). Put simply, zookeepers want management to take its moral duty

as seriously as they do. Not surprisingly, the zoo often fails to measure up to this standard, as illustrated in the following complaints:

> When I hear that $15,000 went to things that were supposed to go to animals and it didn't, that's what really makes me mad. I think that they should be more focused. They should care as much about these animals as I do, and maybe they don't.

> A good example would be the [giant] panda. The panda flew in from England to [city] and had to be trucked to [this zoo], and the next day it had to be [on display]. Of course that animal promptly went off feed and so it had to be pulled off display anyway. . . . That compromises the animal.

> We always hear the animals come first . . . but sometimes we don't feel that's actually the case. If the animals came first they would give us another keeper, because that's for the animals.

Given that zookeepers are so concerned about management's duty to the animals, we thought that mistreatment of the animals might be one of the few things that zookeepers would not tolerate and that might induce them to leave. We were therefore surprised to find that several zookeepers perceived mistreatment of the animals as even greater reason to stay at the zoo. The following quotes are illustrative:

> If there was any gross misconduct or animal [mis]treatment or anything like that, I wouldn't really tend to think that I would leave the zoo because of that. In fact it would make me try and work harder to try and solve the problem.

> So you see those things going on and you're a little concerned but you still stay. . . . And I have an example. When they decided to cut back on the money, one of their cutbacks was they were going to give our cats, instead of their normal diet, two days a week they're supposed to get these rats that we got for free. Well, when I saw the rats I just went totally crazy because they're soaked in urine, they stunk really bad. And I went straight to the vet and I said, "I will not do this, I will not feed these to my cats. I can understand if you want to cut money from the budget." And so the vet said, "Well, whatever rats you think are feedable, feed out. Whatever ones you don't, throw out." And that's what we do now. But I think if I wasn't here to put up with this then they might have been getting those nasty rats.

Clearly, the sense of moral duty that these zookeepers felt to act as guardians of their animals was only strengthened by perceptions that they could not count on the zoo to fulfill its duty.

TEST OF AN EMERGENT THEORY OF NEOCLASSICAL CALLING

To provide an initial test of this emergent theory of neoclassical calling and its consequences, we examined the above hypotheses using survey data obtained from a sample of experienced zookeepers working full time at accredited zoos and aquariums in the United States and Canada. For convenience, we use the term zoo here to refer to zoos, aquariums, and other facilities that keep and display animals. The study was conducted with the sponsorship of the American Association of Zoo Keepers (AAZK), a nonprofit volunteer association of zookeepers representing keepers at 250 animal-related facilities in 48 U.S. states and five Canadian provinces.

Sample and Data

We first collected data from a subsample of AAZK members for use in piloting our measures. We sent surveys to 200 members randomly selected from the complete AAZK membership roster of 1,432 zookeepers. Reminders were sent out approximately two weeks later. We received responses from 104 zookeepers, for a response rate of 52 percent. We used data from this sample solely to pretest measures and to troubleshoot the survey, not to test hypotheses.

To collect data for hypothesis testing, we used two sampling techniques. First, we mailed surveys, along with an introductory letter from the AAZK president, to the entire remaining AAZK professional membership (1,232 zookeepers) with reminders at two, four, and six weeks. We received responses from 775 zookeepers for a total response rate of 62.9 percent. We also solicited participation from non-AAZK zookeepers by sending invitation letters (signed by the AAZK president and executive director) to zoo directors at 155 zoos accredited by the Association of Zoos and Aquariums (AZA). Seventy of these directors agreed to participate (45.2 percent). Survey packets were mailed to a contact person at these zoos for distribution to non-AAZK zookeepers and reminders were sent out after two weeks. We received 408 completed surveys from a possible population of 1,652 non-AAZK zookeepers for a response rate of 24.7 percent. We eliminated some responses because they came from individuals who worked in non-AZA-accredited zoos, did not work in animal care, worked less than 20 hours per week, had less than one year of tenure in the profession, or whose responses clearly indicated that they were responding randomly or mindlessly. We were left with a final sample of 982 zookeepers from 157 different zoos.

The sample was 72 percent female and 93 percent Caucasian. The average age was 35.4 years, with an average work experience of 10.7 years in zookeeping and 7.5 years at the current zoo. Fifty-seven percent of the sample had volunteered at a zoo before being hired as a keeper, with an average tenure among volunteers of 1.9 years. The average participant reported working 41.1 hours per week. Sixty-three percent of the sample relied on a second source of income, either another job or income from a spouse or family. Seventy-three percent held a bachelor's degree or higher. Sixty-four percent of those in the sample were members of the AAZK.

Measures

Because we used previously validated scales as well as scales developed specifically for this study, we conducted a pilot study to examine and refine our survey instrument. To further validate our scales after making refinements based on our pilot survey, we randomly split our final sample into two parts, a measurement subsample (used for validating our measures; N = 491) and a structural subsample (used for testing hypotheses; N = 491).

Scale development. The specific items used to measure each of the constructs in this study are listed in the Appendix, along with estimates of scale reliability (Cronbach's alpha) from both the measurement and structural subsamples.

Items used to measure *occupational identification* came from Mael and Ashforth (1992), and items used to measure *work meaningfulness* were based on the theoretical and measurement work of Spreitzer (1995), Wrzesniewski et al. (1997), and Pratt and Ashforth (2003). Scales to measure *neoclassical calling*, *moral duty*, and *perceived organizational duty* were developed for this study using concepts and language from our field data. As detailed in the Appendix, we also developed a context-free version of our calling scale that demonstrated strong reliability in a sample of Master's of Public Administration students (Cronbach's alpha of .90). The moral duty and perceived organizational duty scales used the same set of items but with different referents ("*I* have a moral duty" versus "the *zoo* has a moral duty"). We measured *occupational importance* as agreement with statements about the role that zoos play in species preservation and public education (developed with the assistance of AAZK officers). We measured *willingness to sacrifice* by asking zookeepers how willing they would be to give up their nonwork time without pay to assist in certain animal-related activities (also developed with the assistance of AAZK officers).

Construct validation. A principal components factor analysis using the measurement subsample and including all items produced a six-factor solution with eigenvalues ranging from 1.2 to 10.8 (66 percent of the cumulative variance explained). Items loaded on factors as hypothesized in our measurement theory with just one exception: the eight items for moral duty and perceived organizational duty loaded on one factor, with eigenvalues ranging from .50 to .87. We found this to be a striking result given that these scales have different referents and were in different sections of the survey. We had theorized that zookeepers with a sense of moral duty toward animal care would place that same moral burden on their zoo. The observed pattern of unconstrained factor loadings is strongly consistent with this assumption and suggests that, in fact, to assume a personal moral duty is to perceive an organizational moral duty. We revisited this question of whether a one-factor or two-factor solution best fits these data using confirmatory factor analytic procedures (described below). All other items loaded on their expected factors with loadings above .60 (average = .75, s.d. = .06) and with no cross-loading above .32 (average = .13, s.d. = .07).

We used confirmatory factor analysis to further examine the convergent and discriminant validity of our measurement model. First, we compared the fit of one- and two-factor models for each pair of scales in our study. Results suggested that two-factor models were a significant improvement over one-factor models in every case ($\Delta\chi^2$ significant at $p < .001$), including the case of moral duty and perceived organizational duty, which loaded on one factor in the initial factor analysis. We therefore treated these as two separate constructs in our analysis, although we acknowledge their strong empirical overlap. Second, we examined the fit of the overall measurement model. We found that while all items loaded significantly on their respective factors ($p < .001$), the fit of the overall measurement model could be improved ($\chi^2 = 1802.6$, d.f. = 474, χ^2/d.f. = 3.8, CFI = .88, NFI = .85, RMSEA = .08). We found that we could substantially improve the model by dropping one of the five

work meaningfulness items ("The work that I do makes the world a better place") and two of the six occupational importance items ("Keeping animals in zoos is justified because zoos educate the public about animal issues," and "Efforts to promote animal conservation would be a lot harder if zoos weren't around to educate the public about animals"). These changes significantly improved the fit of the measurement model ($\Delta\chi^2$ significant at $p < .001$) and resulted in a model that clears standard hurdles for acceptable fit ($\chi^2 = 1064.3$, d.f. = 384, χ^2/d.f. = 2.8, CFI = .93, NFI = .90, RMSEA = .06; see Bentler and Bonett, 1980; Marsh and Hocevar, 1985; Brown and Cudeck, 1993). We therefore used these revised scales in all hypothesis testing. Cronbach's alpha for revised scales was strong (.88 for work meaningfulness, .84 for occupational importance).

Control variables. Because individual differences in demography, experience, organizational level, and professional affiliation may affect a zookeeper's attitudes toward his or her work, we controlled for the following variables: age, gender (1 = female, 2 = male), years in the zookeeping profession, education level (1 = high school diploma, 2 = some college, 3 = associate's degree, 4 = bachelor's degree, 5 = advanced degree), AAZK membership (0 = non-member, 1 = member), and supervisor status (1 = non-supervisor, 2 = supervisor).

RESULTS

Means, standard deviations, intercorrelations, and scale reliabilities for all variables in this study are summarized in table 1. Not surprisingly, given our psychometric results, the correlation between moral duty and perceived organizational duty was quite high (r = .75), right at the standard above which correlated independent variables can become particularly

Table 1

Descriptive Statistics and Correlations*

Item	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12
1. Neoclassical · calling	6.02	.88	**.91**											
2. Occ. identification	5.21	.87	.36	**.81**										
3. Moral duty	5.49	1.37	.47	.42	**.88**									
4. Occ. importance	5.45	.98	.31	.39	.26	**.83**								
5. Work meaningfulness	5.82	.87	.37	.44	.33	.40	**.88**							
6. Perceived org. duty	5.67	1.24	.38	.35	.75	.24	.28	**.88**						
7. Willingness to sacrifice	5.52	1.12	.37	.36	.47	.24	.44	.36	**.72**					
8. Age	35.48	9.20	−.08	−.16	−.07	−.16	−.14	−.09	−.07	–				
9. Gender (2 = male)	1.27	.44	−.22	−.15	−.16	−.07	−.18	−.11	−.22	.24	–			
10. Years in profession	10.89	8.02	−.06	−.15	−.05	−.14	−.12	−.11	−.14	.76	.24	–		
11. Education	3.59	.92	.02	.01	−.04	−.07	−.03	−.07	−.03	−.14	−.09	−.17	–	
12. AAZK membership (= 1)	.62	.49	.15	.13	.11	.06	.11	.09	.15	.00	−.11	−.02	.01	–
13. Supervisor (= 2)	1.24	.42	−.04	−.02	.02	−.13	.03	−.03	.05	.28	.07	.34	−.04	.04

* All correlations greater than |.12| are significant at $p < .01$; Cronbach's alpha for multi-item scales are shown in bold on the diagonal; N = 491 (structural subsample).

Table 2

OLS Regression Model Results*

Variable	Occ. Identif. 1	Moral Duty 2	Work Meaningfulness 3a	Work Meaningfulness 3b	Occupational Importance 4a	Occupational Importance 4b	Willingness to Sacrifice 5a	Willingness to Sacrifice 5b	Perceived Org. Duty 6a	Perceived Org. Duty 6b
Controls										
Age	−.06	−.02	−.09	−.07	−.09	−.08	.08	.10	.01	.00
Gender	−.04	−.04	−.08	−.06	.03	.04	−.11•	−.10•	.01	.04
Years in the profession	−.09	−.03	−.05	−.03	−.05	−.02	−.18••	−.16••	−.12	−.07
Education	−.02	−.05	−.07	−.05	−.09•	−.08•	−.07	−.06	−.10•	−.05
AAZK membership	.08	.04	.05	.02	.03	.01	.09•	.07	.04	.00
Supervisor	.03	.06	.09•	.08	−.09	−.10•	.11••	.09•	.02	−.02
Neoclassical calling	.33•••	.49•••	.32•••	.18•••	.31•••	.19•••	.34•••	.14••	.40•••	.03
Mediators										
Occ. identification	–	–	–	.31•••	–	.30•••	–	.14••	–	.04
Sense of moral duty	–	–	–	.09	–	.03	–	.32•••	–	.72•••
R^2	.16	.27	.16	.26	.14	.22	.20	.31	.19	.57
Adj. R^2	.15	.26	.15	.24	.13	.20	.19	.29	.17	.57
ΔR^2	.10	.23	.10	.10	.09	.08	.11	.11	.15	.39
Model F	12.75•••	24.53•••	12.87•••	18.08•••	10.84•••	14.40•••	16.54•••	23.08•••	15.19•••	69.49•••

• $p < .05$; •• $p < .01$; ••• $p < .001$.
* Standardized regression coefficients (βs) are reported in all cases.

problematic (see Miles and Shevlin, 2001). We therefore examined variance inflation factors in all models. The highest variance inflation factor for any variable in any model was 2.4, suggesting that multicollinearity is not a problem in these data. An analysis of distributions suggested that most of the constructs measured in this study were positively skewed; zookeepers as a group tend to experience high levels of calling, duty, meaning, importance, and sacrifice. Nevertheless, this skew did not appear to seriously violate normality assumptions based on an analysis of normal probability plots.

Table 2 presents ordinary least squares regression results for all hypothesized relationships. After accounting for the effects of all control variables, we found positive and significant relationships ($p < .001$) between calling and both occupational identification (model 1) and moral duty (model 2). These results are consistent with hypotheses 1 and 4.

We also found positive and significant relationships ($p < .001$ in all cases) between calling and each of the dependent variables in our model: work meaningfulness (model 3a), occupational importance (model 4a), a willingness to sacrifice (model 5a), and perceived organizational duty (model 6a). Moreover, we found that adding the hypothesized mediators to these models significantly increased the explanatory power of each model while decreasing the magnitude of the coefficient for calling, consistent with mediation (see Baron and Kenny, 1986).

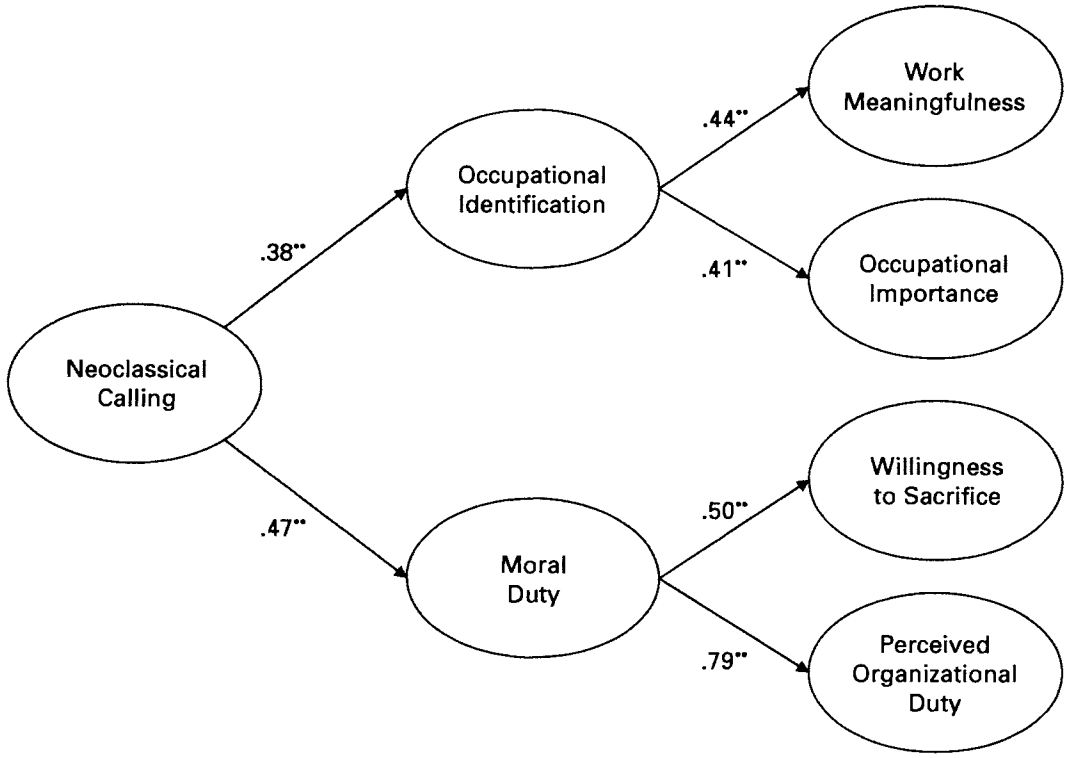
In the case of work meaningfulness and occupational importance, the dominant mediator was clearly occupational

identification rather than moral duty; in both cases, the coefficient for occupational identification was highly significant, whereas the coefficient for moral duty did not reach significance (see models 3b and 4b). Sobel tests (Sobel, 1982) confirmed that occupational identification significantly mediated the relationship between calling and both work meaningfulness ($p < .001$) and occupational importance ($p < .001$) but that moral duty did not significantly mediate either relationship ($p > .05$ in both cases). These results are consistent with hypotheses 2 and 3. The coefficients for calling remained significant in both equations, however, suggesting partial mediation, i.e., that the effect of calling on work meaningfulness and occupational importance is not fully explained by occupational identification.

In the case of the two remaining dependent variables, willingness to sacrifice and perceived organizational duty, the dominant mediator was moral duty rather than occupational identification. After accounting for the effects of calling, the coefficient for moral duty was highly significant for both dependent variables ($p < .001$), whereas the coefficient for occupational identification did not reach significance in predicting perceived organizational duty and was a weaker (but still significant at $p < .01$) predictor of a willingness to sacrifice (see models 5b and 6b). Sobel tests confirmed that moral duty significantly mediated the relationships between calling and both a willingness to sacrifice ($p < .001$) and perceived organizational duty ($p < .001$), whereas occupational identification was a weaker mediator of the relationship between calling and willingness to sacrifice ($p < .01$) and not a significant mediator of the relationship between calling and perceived organizational duty ($p > .05$). These results are consistent with hypotheses 5 and 6. Moreover, after adding moral duty to model 6a, the coefficient for calling dropped from significance, suggesting that the relationship between calling and perceived organizational duty is fully explained by moral duty. But calling did remain a significant predictor of willingness to sacrifice ($p < .01$) after accounting for the mediating effects, suggesting partial rather than full mediation in this case.

We further examined the above system of hypothesized relationships using latent variable structural equation modeling to evaluate the overall fit of our theoretical model to the data and to include a correction for common method bias. First, we fit a model with the hypothesized seven latent variables and six structural paths to the data and evaluated model fit and path coefficients. This model fit the data well ($\chi^2 = 1244.3$, d.f. = 399, χ^2/d.f. = 3.1, CFI = .91, NFI = .87, RMSEA = .07), and all hypothesized paths were significant at $p < .001$. We then added an eighth latent variable to this model with paths to all indicator variables to account for possible covariance due to common method, as suggested by Podsakoff et al. (2003). This eight-factor model provided a better fit ($\chi^2 = 949.6$, d.f. = 369, χ^2/d.f. = 2.6, CFI = .94, NFI = .90, RMSEA = .06), suggesting some covariance due to common method. Nevertheless, after accounting for this covariance, all hypothesized paths remained significant ($p < .001$). The resulting model with these path coefficients included is depicted in figure 1.

Figure 1. Theoretical model of neoclassical calling with path coefficients from the latent variable structural equation model.*



** $p < .001$.
* Standardized regression weights reported; N = 491 (structural subsample).

DISCUSSION

Our in-depth examination of work meaning in one sample of modern workers leads to two important conclusions. First, though a sense of calling was central to how this sample of zookeepers thought about and assigned meaning to their work, they conceptualized calling in ways that were more similar to the classic conceptualization of the Protestant reformers than to modern conceptualizations. And second, this neoclassical version of calling is a painfully double-edged sword—a source of transcendent meaning, identity, and significance as well as of unbending duty, sacrifice, and vigilance. Our analysis therefore provides important insights into how calling promotes meaning while also pointing to the complex nature of deeply meaningful work.

The Neoclassical Conceptualization of Work as a Calling

While a sense of calling was central to the experience of work and work meaning for the zookeepers in this study, the way they thought about calling was much closer to the classical conceptualization than to modern views. At the crux of this divergence were notions of duty and destiny, notions that figure centrally in the classical and neoclassical views but that play little if any role in modern conceptualizations. Whereas the classical and neoclassical conceptualizations emphasize

finding and embracing one's calling as a duty to society, modern conceptualizations tend to be more self-focused, emphasizing "duty to the self" (Baumeister, 1991: 43) and the importance of "self-knowledge, identity, self-fulfillment, and the pursuit of (personal) happiness" (Novak, 1996: 39). Calling, in this self-directed view, is really about finding work in which one can thrive and be fulfilled, about finding one's bliss at work. Although those with a modern calling may also espouse "the belief that the work contributes to the greater good" (Wrzesniewski, 2003: 301), this belief is more a benefit than a duty. The notion of a self and of talents and passions that attach to the self clearly play a role in a zookeeper's sense of calling. Nevertheless, the primary focus is always on the self in society, on discovering that place and that community in society's division of labor where one fits and is needed. Zookeepers therefore pursue their calling not because they enjoy cleaning cages but, rather, because cleaning cages is part of their offering to society, an offering they feel obligated to make because of their particular gifts and society's need.

The neoclassical view of calling expressed by zookeepers also reflects its classical roots in the sense of destiny that accompanies it, a point that further differentiates it from modern views. Zookeepers did not simply choose zookeeping; a career working with animals was predetermined by their idiosyncratic "wiring" and apparent in the unfolding circumstances of their lives. As with the classical view of calling, the source for a neoclassical calling therefore lies outside the self, and the individual's responsibility is not to decide but to discover and dutifully embrace. This sense of destiny is perhaps the clearest example of how the religious foundations of calling continue to "prowl about" (Weber, 1930: 124) in modern applications of the calling concept. In essence, the neoclassical view retains the notion of an external caller, not necessarily a divine being as in the classical view but, rather, a general confidence in the order of the universe, a belief that events happen as they are meant to happen. This sense of destiny is absent from most modern conceptualizations of work as a calling, an exception being Duffy and Sedlacek (2007: 591), who characterized a calling as "a transcendent summons, experienced as originating beyond the self . . ." (see also Dik and Duffy, 2009). Modern conceptualizations generally assume that a calling is simply a personal life choice, something one chooses out of passion or commitment, not because it was meant to be.

These basic differences between neoclassical and modern views of calling—differences in core notions of duty and destiny—have significant implications for the strength and intensity of the calling experience. Put simply, without a sense of destiny and duty, calling loses much of its power to shape meaning and motivate behavior. As Baumeister (1991: 143) lamented, it becomes "a somewhat degraded form of the concept of calling." If the bond between me and my work is mine to forge based on personal passion or perceived fulfillment, it is also mine to break. But if the bond between me and my work is forged by destiny and duty, it becomes truly binding and, if I respond with diligence and sacrifice, truly ennobling.

Neoclassical Calling as a Double-edged Sword

Our investigation of these binding and ennobling consequences of a neoclassical calling represents another important contribution of this study. Contemporary research on work as a calling has focused almost exclusively on the benefits of a calling for work-related attitudes and outcomes (Bellah et al., 1985; Wrzesniewski et al., 1997; Treadgold, 1999; Pratt and Ashforth, 2003; Dobrow, 2006; Duffy and Sedlacek, 2007). Our study of zookeepers confirms these positive, meaning-related outcomes of calling. Zookeepers with a greater sense of calling were more likely to feel that their work was both meaningful and important. At the same time, our study strongly suggested that these positive outcomes carry a price. Zookeepers with a greater sense of calling were also more willing to sacrifice money, time, and physical comfort or well-being for their work. As a result, they were more vulnerable to potential exploitation by management, as further evidenced by a post hoc analysis in which calling was negatively associated with self-reported income after controlling for age, gender, tenure, supervisory level, and education. A greater sense of calling was also associated with heightened expectations about management's moral duty related to the work, leading to an employment relationship characterized by vigilance and suspicion. These results suggest that a neoclassical calling is, indeed, a double-edged sword.

Moreover, our analysis of the specific mechanisms by which a neoclassical calling operates reveals that both the benefits and the burdens of a calling are logical consequences of viewing calling as one's destined place in the occupational division of labor in society; to perceive one's work through the lens of a neoclassical calling is both to inherit an occupational identity and to assume a moral duty. In other words, the very notions that allow zookeepers to find meaning in their work also bind them to that work. A neoclassical calling cannot inspire profound meaning without simultaneously requiring profound sacrifice. Zookeepers cannot minimize their own or their organization's duty in relation to their work without simultaneously making that work something less important or less personal. Our analysis of calling among zookeepers therefore points to a fundamental tension inherent in deeply meaningful work: deep meaning does not come without real responsibility. It follows that any conceptualization of work meaning, or of work as a calling, that promises meaning without responsibility or significance without sacrifice is underspecified.

Our results also showed that the effect of calling on our dependent variables was partially (not fully) mediated by occupational identification and moral duty. This finding suggests that the effects of calling are more robust than we expected, that calling inspires meaning and motivates sacrifice for reasons not anticipated by our theory. An articulation of these additional intervening mechanisms offers one exciting avenue for future research.

Limitations and Alternative Models

Though our survey data analysis generated results that were quite consistent with our theoretical model, the cross-sectional

nature of those data prohibits our conclusively eliminating models with different causality assumptions. We argued that a calling leads people to identify with an occupation, view their work as a moral duty, derive meaning, and make sacrifices. One might argue, however, that calling is not always an exogeneous driver within this system of relationships. For example, it could be that people select an occupation for more mundane reasons, such as availability or curiosity, and are then motivated to make sense of their occupational choice to make it meaningful and justify whatever sacrifices it entails. The notion that one is destined to do particular work offers one of the most compelling rationalizations available to those who strive to make sense of their career path or to explain to themselves and others why they sacrifice time, money, or prestige for their work. So although the narratives we heard in our interviews framed calling as a cause rather than as a consequence of choices and sacrifices, we acknowledge that causality in this case may actually be reciprocal: individuals develop an early sense of their gifts and interests, which leads them to certain types of work, which in turn motivates them to justify their choices, which in turn deepens their occupational commitment, and so on. Longitudinal research from childhood to career would be needed to fully disentangle these causality questions.

There are other alternative causal models that, though we cannot eliminate them, seem less likely given the overall patterns in our interview and survey data. For example, one might argue that a sense of duty and sacrifice results not from one's calling but, rather, from exposure to an occupational ideology—that a calling promotes identification with an occupation and its ideologies and that this is what fosters a sense of moral duty. Empirically, this would imply that the relationship between calling and moral duty is mediated by occupational identification and a sense of occupational importance, but we found no evidence for that mediated effect in post hoc analyses.

One might also argue that this is ultimately a story of identification rather than calling, that it is really identification with zookeeping that fostered a sense of calling and duty, as well as meaning and importance, for these zookeepers. This more socialized account of calling cannot be eliminated with our cross-sectional survey data. Nevertheless, it is inconsistent with the way zookeepers talked about their calling. Their sense of calling was described in very individual terms, as something particular to them and not as something derived from their occupational affiliation. And it was this sense of individual "wiring" that formed the foundation for their sense of identification or kinship with the zookeeper community. So though it seems likely that occupational identification would strengthen one's sense of duty and calling (again the idea of reciprocal causality), we don't see occupational identification as the primary driver.

Another limitation of our survey study derives from the fact that all the key variables were collected using the same method. Although we attempted to account for common-method variance using latent variable methods, those methods are imperfect and cannot entirely eliminate same-source

concerns. We must therefore view the quantitative results of this study as suggestive rather than conclusive in demonstrating support for the theory that emerged from our qualitative analysis.

The Province of the Neoclassical Calling

Given the unique nature of our sample, one is left to wonder whether a neoclassical calling is limited to fringe settings like zookeeping or whether we might find it in other, more mainstream work settings. In their seminal statement on work as a calling, Bellah et al. (1985: 66) offered their opinion that it may only be "in a few economically marginal but symbolically significant instances [in which] we can still see what a calling is." Zookeeping would certainly qualify as both economically marginal and symbolically significant. It is therefore possible that the sense of calling expressed by zookeepers would be relevant only in not-for-profit settings, public interest settings, or settings that require unique skills and economic sacrifices for a perceived public benefit. This would include areas such as the arts, education, health care, the military, social welfare, and public service. If a neoclassical calling is limited to these settings, it nevertheless remains highly relevant for a large sector of the global economy.

It is also possible, however, that a neoclassical calling could be found in any work setting. This was certainly the assumption underlying classic statements of work as calling. If Luther's cobbler could view his work as his destined place in society's division of labor, couldn't the auditor, the financier, the assembly-line worker, or the executive as well? Any of these workers could conceivably believe that their gifts, talents, and idiosyncratic life opportunities had inevitably propelled them to do the important work they do. To view one's work as a neoclassical calling, then, may be as much about conviction as context. The current study invites a consideration of the extent to which calling, conceptualized in neoclassical terms, might have broader relevance in our modern society and provides a framework and set of measurement tools for pursuing that investigation.

Given that the notion of work as a calling emerged from the Protestant Reformation in Christian Europe, we might also question the relevance of a neoclassical calling to non-Western or non-Christian cultures. That is, the notion of work as a neoclassical calling may require a particular cultural and/or religious background (Davidson and Caddell, 1994). And yet Weber argued that the notion of work as a calling is embedded in the culture of capitalism, a culture that increasingly transcends any particular national culture in our modern world. Furthermore, a neoclassical calling is a secular formulation and does not rely on particular religious beliefs. It is therefore possible that the idea of work as a neoclassical calling could be found in any religious or national culture. We are not able to address this question empirically with the present U.S. and Canadian sample of zookeepers, in which religious background was not assessed. An empirical examination of this question therefore remains an important direction for future research.

In conclusion, our study of neoclassical calling paints a complex, fascinating, and sometimes troubling picture of the

impact a calling can have on the relationship between individuals and their work. It suggests that the neoclassical conceptualization of calling is not dead but continues to prowl about in at least some modern work settings, leading to a view of work that is both ennobling and binding. Understanding the implications of neoclassical calling for the relationship between individuals and their work therefore promises important insights into the complex reality of deeply meaningful work.

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APPENDIX: Survey Items with Reliability Estimates

Neoclassical Calling (1 = "very strongly disagree," 7 = "very strongly agree")

The calling scale was developed for this study based on field data. We also examined a context-free version of this scale in a sample of 104 Master's of Public Administration students (83 percent response), i.e., "The work I do feels like my calling in life," "It sometimes feels like I was destined to do the work I do," "The work I do feels like my niche in life," "I am definitely the sort of person who fits in my line of work," "My passion for the work I do goes back to my childhood," and "I was meant to do the work I do." Cronbach's alpha for this six-item scale was .90. Respondents used 7-point response scales for all items.

1. Working with animals feels like my calling in life.
2. It sometimes feels like I was destined to work with animals.
3. Working with animals feels like my niche in life.
4. I am definitely an animal person.
5. My passion for animals goes back to my childhood.
6. I was meant to work with animals.

[α = .92 in the measurement subsample, .91 in the structural subsample]

Occupational Identification (from Mael and Ashforth, 1992)
(1 = "very strongly disagree," 7 = "very strongly agree")

1. When someone criticizes the animal keeping profession, it feels like a personal insult.
2. I am very interested in what others think of the animal keeping profession.
3. When I talk about the animal keeping profession, I usually say "we" rather than "they."
4. The animal keeping profession's successes are my successes.
5. When someone praises the animal keeping profession, it feels like a personal compliment.

[α = .83 in the measurement subsample, .81 in the structural subsample]

Moral Duty (developed for this study based on field data)
(1 = "not at all," 7 = "to a very great extent")

1. I have a moral obligation to give my animals the best possible care.
2. If I did not give my animals the best possible care, I would feel like I was breaking a solemn oath.
3. I consider it my sacred duty to do all I can for my animals.
4. Caring for my animals is like a sacred trust to me.

[α = .88 in the measurement subsample, .88 in the structural subsample]

Work Meaningfulness (based on the work of Spreitzer, 1995; Wrzesniewski et al., 1997; Pratt and Ashforth, 2003) (1 = "very strongly disagree," 7 = "very strongly agree")

1. The work that I do is important.
2. I have a meaningful job.
3. The work that I do makes the world a better place.
4. What I do at work makes a difference in the world.
5. The work that I do is meaningful.

[α = .89 in the measurement subsample, .89 in the structural subsample]

Occupational Importance (developed for this study based on field data and with AAZK input) (1 = "very strongly disagree," 7 = "very strongly agree")

1. Zoos that breed endangered species play a critical role in the larger animal conservation effort.
2. Keeping animals in zoos is justified because zoos are working to prevent species extinction.
3. Captivity and captive breeding may be the only hope for many endangered species.
4. Educating the public by showing them captive animals may be the only way to change attitudes about animal conservation.
5. Keeping animals in zoos is justified because zoos educate the public about animal issues.
6. Efforts to promote animal conservation would be a lot harder if zoos weren't around to educate the public about animals.

[α = .90 in the measurement subsample, .88 in the structural subsample]

Willingness to Sacrifice (developed for this study based on field data and with AAZK input)

How willing would you be to give up your free non-work time to do each of the following without pay? (1 = "not at all," 7 = "to a very great extent")

1. Care for a sick animal.
2. Provide enrichment activities for an animal.
3. Serve on a committee to improve animal care at your facility.

[α = .72 in the measurement subsample, .72 in the structural subsample]

Perceived Organizational Duty (developed for this study based on field data) (1 = "not at all," 7 = "to a very great extent")

1. I believe that this facility is morally obligated to give its animals the best possible care.
2. If this facility does not give its animals the best possible care, it would be like it is breaking a solemn oath.
3. I believe that this facility has a sacred duty to do all it can for its animals.
4. I believe that caring for animals is like a sacred trust for this facility.

[α = .88 in the measurement subsample, .86 in the structural subsample]