

# Care in the State of Nature<sup>1</sup>

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## Abstract

Care ethics is often said to be a naturalistic philosophy, rooted in human psychology and biology. Care theorists, however, have not explored or developed this claim in any detailed way. Drawing on recent research from evolutionary theory, neurobiology, ethology, and developmental psychology, this chapter provides scientific evidence for our innate capacity to care. By demonstrating the existence of an innate disposition in human beings, I challenge traditional Western conceptions of human beings as predominantly self-interested and independent. Caring relations would have not only existed but also been central to the life of human beings in the state of nature. Reimagining the state of nature to include care, I offer a very different understanding of the central moral and political problems facing human beings than that of classical liberal theory and highlight the importance of care ethics in addressing them.

Keywords: care ethics; state of nature; evolutionary theory; neurobiology; oxytocin; ethology; developmental psychology.

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Care ethics is often described as a naturalistic philosophy. Following David Hume, care theorists frequently suggest that human beings are endowed with natural sentiments of care rooted in human psychology or biology (see, for example, Richards 2013, 19-23; Slote 2010a, 157-8). Some care theorists have even suggested that the naturalistic orientation of care ethics represents one of its distinguishing features (Kittay 2009). Whereas rationalist, and particularly Kantian, moral theories typically attempt to transcend or idealize the psychological, biological, and practical world of human affairs, care ethics gives voice to the natural caring inclinations found within it (Jaggar 2000).

Although many care theorists have suggested that care ethics is a naturalistic philosophy, few have explored the scientific evidence for this claim in any detail.<sup>2</sup> Michael Slote (2007, 13-16) and David Richards (2013, 19-23) have noted some evidence for the existence of a natural sentiment to care, but their analyses are very brief. In this chapter, I provide a more thoroughgoing exploration of the natural bases of care ethics. Drawing on recent research in evolutionary theory, neurobiology, ethology, and developmental psychology, I provide scientific evidence for an innate disposition to care for others in human beings, thus demonstrating that we are at least in part naturally caring creatures.

The value of this chapter is twofold. First, it significantly strengthens the justification for care ethics. At least since the seventeenth century, one of the main stories we have told ourselves about ourselves in the West is that we are by nature selfish and competitive creatures. These stories not only have influenced how we behave and how we regard others, but also the moral and political possibilities that we consider realistic for ourselves and our societies. For individuals reared in this tradition, care ethics might seem an attractive moral and political theory but somewhat naïve or utopian. By demonstrating the naturalistic foundations of care ethics, I

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<sup>2</sup> Richards (2013, 19-23) is a partial exception here, but his analysis is very brief.

intend to turn this perspective on its head, offering a counter-narrative to dominant Western conceptions of human nature. While we are no doubt in part selfish and competitive creatures, we are also naturally inclined toward care and compassion. Evolutionary biology, neuroscience, and behavioral studies all overwhelmingly indicate that human beings are (with the possible exception of psychopaths) naturally predisposed not just to look after their own self-preservation but also to care for others. Building a moral and political theory around care is therefore not naïve or unrealistic. Just the opposite is the case. In light of recent scientific findings, it is not care ethics' vision of humanity and society that appears naïve and unrealistic but the narrowly selfish, competitive, and uncaring vision of economic "man" – the very vision that has guided so much of moral and political thought in Western countries since the seventeenth century - that is demonstrably misguided.

Secondly, this chapter also offers a reinterpretation of the most basic moral and political problems facing human beings and the value of care ethics in addressing them. Human beings are not the egotistical creatures portrayed by classical state of nature theories but naturally oriented to form communities and care for one another, albeit in limited and parochial ways. As such, the fundamental moral and political challenge facing human beings is not so much one of generating moral concern and political order between wholly self-interested and isolated individuals in a disorderly state of nature as it is finding ways to refine the feelings and relations of care that already exist among individuals within particular groups and extend them to other individuals and groups. Social contract and other theories that start out from an individualistic ontology are for the most part useless for addressing this problem. What is required is a moral and political theory devoted to studying the nature of care and identifying possibilities for forging broader caring relations between groups. Care ethics is uniquely devoted to this task.

Starting out from the natural caring sentiments within us, it offers insights into how we can expand and refine our natural sentiments toward broader ethical ends.

In this chapter, I begin by briefly defining what I mean by a caring disposition, and then outline the evidence for a natural inclination to care in evolutionary theory, neurobiology, ethology, and developmental psychology. In the final section, I offer a new vision of the state of nature that takes into account human beings' innate disposition to care, and draw out the implications of this new framework for moral and political theory.

To avoid confusion, I should explicitly spell out at the outset the connection I see between caring dispositions and care ethics. Virginia Held (2002) has raised some concerns about associating care ethics too closely with innate or natural sentiments on the grounds that it threatens "to subordinate the normative to the natural," mask normative judgments behind scientific claims, and undermine "our ability to make the needed distinction between what we observe and describe and what we normatively commit ourselves to" (2002, 9, 13). These are obviously important concerns. My goal here, however, is not to fully naturalize care ethics but only demonstrate and clarify the natural bases or sentiments underlying it. Care ethics remains from my perspective a moral and political theory whose content ultimately must be determined by normative judgments about good care. Caring dispositions merely provide an innate motivation to care and some action guiding intuitions. My argument is therefore in no way meant to collapse "ought" into "is." I mean only to identify the innate caring dispositions (the "is") that motivate and form the basis for a moralized understanding of care ethics (the "ought"), demonstrate that care ethics is not a pie-in-the-sky ethic but rooted in natural human dispositions ("ought" implies "can"), and draw out some lessons for care ethics, and moral and political theory more generally, from a clearer understanding of our natural caring dispositions.

## Caring Dispositions

By caring dispositions, I mean internal impulses, intuitions, and emotions motivating concern for a person's welfare.<sup>3</sup> These internal states may include feelings of sympathy, empathy, compassion, concern, tenderness, sorrow, or distress. While care theorists disagree about which of these sentiments is most important for motivating caring behaviors (Noddings 2002, 13-14; Slote 2007; 2010b), I am going to sidestep these debates. What is important for my purposes is simply that we are clear about the internal states or emotions we are discussing. In the first place, then, caring dispositions involve more than merely imagining or knowing the internal state of others, matching their neurological responses, or coming to feel as they feel (Batson 2011, 11-19). Feeling another's pain is not in itself a caring disposition unless it also *motivates* a concern to help. Secondly, though, caring dispositions need not be entirely selfless. If one person is sufficiently distressed by the circumstances of another that it causes them to feel an urge to help, then personal distress can function as a caring disposition. Caring dispositions thus encompass a broader set of affective motivations than altruistic motivation; they include any internal states that generate concern for others' welfare (Batson 2011, 19-23).

In saying that caring dispositions motivate concern for others, I mean that they give rise to a desire to improve, or see improved, the welfare of others. By welfare, I mean primarily a person's biological, emotional, and developmental well-being, including an absence of pain and suffering. Thus, a caring disposition may be defined as a feeling, intuition, or other internal state that inclines us to help others, or wish to see others helped, by comforting, protecting, feeding, soothing, or otherwise attending to them. Caring dispositions are, of course, only one factor in determining whether or not a person cares for others; a person's mood and worldview, the

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<sup>3</sup> Caring dispositions can also motivate care for oneself (Churchland 2011, 27-31), but my central concern here will be concern for others.

presence or absence of others, their sense of efficacy, and other factors all mediate caring actions (Fiske 2010, chapter 9; Hamington 2010). A caring disposition is nonetheless at the root of all voluntary caring.

Jonathan Haidt and his colleagues (e.g., Graham et al. 2013) have identified care as one of the five innate or pre-wired foundations of human morality, along with fairness, loyalty, respect for authority, and a concern for sanctity or cleanliness. In support of their moral foundations theory, Haidt and his colleagues have carried out cross-cultural studies demonstrating the presence of care and other fundamental moral values among groups throughout the world. Skeptics have nonetheless argued that a very high evidence bar needs to be met before any disposition or trait can be confidently deemed innate (Churchland 2011, 112-16). Specifically, they have suggested that cross-cultural data should be supplemented by evidence from evolutionary theory, genetics, neurobiology, and developmental psychology (Suhler and Churchland 2011). In the next three sections, I provide this evidence for an innate disposition to care, and further suggest that some of Haidt's other foundations (e.g., fairness, loyalty) are closely related to, and perhaps even rooted in, our innate disposition to care.

### Natural Selection and Care

In earlier times, philosophers regularly appealed to divine design to explain the existence of natural impulses or sentiments in human beings, but at least since the nineteenth century, evolutionary theory has become the preferred scholarly discourse for making these claims. At first glance, the theory of evolution might not seem a very promising framework for explaining the development of caring dispositions. As outlined by Charles Darwin, the theory suggests that human beings and other life forms developed gradually over time through a mindless process of natural selection that favored those beings whose adaptations best suited their environments. In

the popular imagination, this process has come to be associated with the idea of “survival of the fittest,” where only the most selfish and merciless (“red in tooth and claw”) creatures were likely to succeed (Hrdy 1999, 12-15).<sup>4</sup> The popular understanding of evolutionary theory rests, however, on the logical fallacy of assuming that what is true of the whole must be true of the parts. Yet, just because natural selection is cruel and pitiless does not mean that the creatures who succeeded under it have to be the same (De Waal 2006, 57-58). On the contrary, natural selection defines fitness to mean above all the ability to reproduce offspring that survive, reproduce, and propagate one’s genes. At least among higher mammals and especially primates and humans, this means adaptive fitness is very closely associated with care (Fuller, 1992).

Because the offspring of most mammals are unable to fend for themselves for a long time after birth, they depend heavily on caregivers for their survival and development (Batson 2011, 54). Primate babies, in particular, are all born needing a great deal of care (Hrdy 2009, 227). A baby chimp orphaned in the wild before the age of three will not survive, and even up to age five, losing a mother is considered a life-threatening liability (266-9, 408-9). Human beings require even more care: “All apes mature slowly, but none so slowly as apes belonging to the genus *Homo*,” a group of large-brained hominids with origins stretching back over two million years (Hrdy 1999, 267, 284; 2009, 146). Given the high degree of dependency of mammal and particularly primate infants, researchers have theorized the evolutionary development of attachment behaviors in them (Bowlby 1982; Hrdy 1999, 387-407; Lieberman 2013, 47-50). According to this theory, natural selection favored infants who were preprogrammed to cry, fuss, suckle, cling and otherwise demand the attention of their caregivers. These adaptations have

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<sup>4</sup> In a 2007 opinion piece in the *New York Times*, David Brooks wrote, “From the content of our genes, the nature of our neurons and the lessons of evolutionary biology, it has become clear that nature is filled with competition and conflicts of interest.”

come down to us today in the well-documented need for attachment among human and primate infants:

For more than thirty-five million years, primate infants stayed safe by remaining close to their mothers day and night. To lose touch was death. This explains why, even today, separation from a familiar caretaker provokes first unease, then desperation, followed by rage, and finally despair (Hrdy 1999, 97).

Primate infants who did not cling to their parents or cry when put down were much more likely to be forgotten, trampled, eaten, or killed. Over time, natural selection thus favored infants who were born with a genetic disposition for attachment to their caregivers.

Just as natural selection favored infants who fussed, cried, and demanded attention, it similarly favored mammalian parents who were more attentive and caring toward their infants. Mammalian parents who provided better care for their offspring would have greatly enhanced the chances of their offspring's surviving, developing into healthy adults, reproducing, and passing on their genes to the next generation. Inasmuch as the offspring of these more caring parents carried genes that similarly inclined them to show more care for their offspring, genes associated with more parental care would therefore have gradually increased in frequency in the population over time.<sup>5</sup> Meanwhile, mammalian parents who were less devoted to the welfare of their young would have been less reproductively successful and their genes would have been gradually selected out of the population (Batson 2011, 46). These selection pressures would have been especially prominent among higher mammals with longer developmental periods. Today, there is widespread agreement among evolutionary theorists that the motivation to care for one's offspring was an important evolutionary adaptation selected for among higher mammals

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<sup>5</sup> By genes here, I mean a cluster of chromosomal material (Dawkins 2006, 28-32). The relation between genes and behavior is not one-to-one but many-to-many. It takes many genes working together to create an inclination toward any complex behavior, and many genes have multiple effects (Churchland 2011 97-103).



including primates and human beings (Bell 2001; Dawkins 2006; Hrdy1999; 2009; Singer 1981; Sober and Wilson 1998). A good deal of evidence (see below) further indicates that parents' disposition to care for their children has an innate genetic basis (Batson 2011, 46-53).

In addition to favoring more caring parents, natural selection also would have favored a genetic disposition (probably stemming from the same genes that dispose us to care for our offspring) for a more general caring concern for kin and as-if kin (i.e., group members who help to protect, support, and provision one's kin) (Dawkins 2006; Hrdy 1999; 2009; Singer 1981). Siblings conceived by the same parents share on average the same percentage of genes with one another (50 percent) as parents share with their children. Just as natural selection favored the genes of parents who better cared for their offspring, therefore, it also would have favored the genes of siblings who better cared for one another. Grandparents further share on average 25 percent of their genes with their grandchildren; uncles and aunts share 25 percent of their genes with their nephews and nieces; half siblings share 25 percent of genes with one another; and so forth. Known as the theory of kin selection or inclusive fitness, natural selection predicts that individuals who showed care and concern not only for their immediate offspring but also for kin relations would have propagated their genes more successfully than those did not.<sup>6</sup> In the small, hunter-gather groups that early human beings lived in (probably numbering around 25 to 35 members), care for kin or as-if kin would have effectively meant a generalized caring concern for

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<sup>6</sup> Theories of kin selection and inclusive fitness generally assert a sharp distinction between genetic relations (kin) and other group members, and assert that natural selection would have favored individuals who helped only the former. This obviously presents problems in explaining the development of a more generalized disposition to care for all group members. If, however, as-if kin played an important role in caring for, provisioning, and protecting one's kin, a selective advantage would have developed for individuals who included them in their ambit of caring concern. There still would have remained an advantage for individuals who showed some preference toward kin, but extending some concern to other group members who supported one's kin (as-if kin) would have also been more advantageous than not doing so. Implicit in his argument, however, is the argument that group members who contributed little or nothing to the survival and reproduction of one's kin – freeloaders, individuals who cared only for their immediate offspring – would not have been treated as “as-if kin” and hence would not have been the subjects of this broader kin care. For a discussion of these and other points, see Boehm 2012, especially chapter 3.

most everyone in one's group (Hrdy 2009). Inasmuch as the disposition to care for kin and as-if kin increased the survival and reproduction rates of individuals with a genetic disposition for generalized care, the frequency of genes for a general caring disposition would have increased over time.<sup>7</sup>

Although the account of human evolution outlined above supports a more congenial (and I dare say realistic) description of human nature than simplistic "survival of the fittest" accounts, evolutionary theory also suggests some sharp limits on the adaptive advantages of any natural disposition to care. Based on the logic of natural selection, it would only have been adaptively advantageous for individuals to care for group members who fostered the survival and propagation of one's kin (genes). Natural selection would therefore have favored individuals with a strong but parochial and discriminating disposition to care.

Successfully propagating one's genes through kin selection depends in part on discriminating between group members and outsiders and showing preference strictly for the former. Any early humans who showed an inclination to care indiscriminately for all others regardless of kin relations would have devoted a great deal of energy and resources to individuals who did nothing to propagate their genes. They would thus have been at an evolutionary disadvantage for propagating their genes compared to individuals who favored only kin and kin supporters. Successfully propagating one's genes through care for kin and as-if kin likewise depended on discriminating between cooperative individuals within one's group and freeloaders and others who did not contribute positively to the group. Once again, individuals who were able to discriminate between contributing and non-contributing group members and

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<sup>7</sup> Although most evolutionary theorists argue that natural selection takes place primarily or exclusively at the individual or genetic level, a few argue that group selection is necessary to explain at least in part the increased frequency of caring dispositions in humans (Nowak, Tarnita, and Wilson 2010; Sober and Wilson 1998; Wilson and Wilson 2008). I do not take a position on this debate, but generally assume (without denying the possibility of some group selection) that individual level selection was the stronger force in human evolution.

direct their care only towards the former would have been at an adaptive advantage over individuals who indiscriminately cared for all group members. They would have more efficiently directed their resources strictly toward individuals who served to propagate their genes. Once our hominid ancestors developed the ability to discriminate between caring and uncaring group members, Christopher Boehm (2012) argues that it very likely served (over the last 50,000 years or so) to select for individuals with more caring or prosocial genes while decreasing the prevalence of genes for in-group aggression, domination, non-cooperation, and free-riding. Anti-social, domineering, and exploitative individuals would have most likely been, according to Boehm's thesis, banished or killed by early human groups until only more cooperative individuals (or at least individuals who were able to restrain or hide their domineering or exploitative tendencies) would have remained. Over time, social selection thus complemented natural selection to make humans more generally caring toward others in their groups.

In sum, evolutionary theory predicts a genetic basis for a disposition to care in human beings. Early humans who cared more for their genetic relations would have more successfully ensured their genetic relations' survival, development, and opportunity to reproduce than individuals who were less caring or indifferent toward their genetic relations which over time would have increased the frequency of the genes for more caring persons in the population.

### Care and Neurobiology

If the motivation to care for others has a genetic basis, as predicted by evolutionary theory, we should expect to find evidence for it in human molecular biology. Genes, after all, do not directly determine behaviors but code for proteins that in combination with other molecules incline us to behave in certain ways. While a full physiological account of how human beings are motivated to care for others exceeds the bounds of this chapter (and current scientific

knowledge), a good deal of scientific research points to the central importance of oxytocin and several other hormones and neurotransmitters (vasopressin, dopamine, endogenous opiates, serotonin, prolactin) in this process (Batson 2011, 50-51; Bell 2001; Churchland 2011; Taylor 2002). When coupled with the arguments from evolutionary theory, this biological evidence goes a long way toward demonstrating an innate or natural basis for care in human beings.

Oxytocin is a peptide of nine amino acids that is produced in the hypothalamus and released into the brain and bloodstream (De Dreu et al. 2010, 1408). Released in especially high concentrations among female mammals during labor, oxytocin most directly functions to induce uterine contractions and promote the flow of milk during breastfeeding (Bell 2001, 221). It also inhibits the natural fear response in mammals, increases feelings of relaxation and well-being, promotes bonding, and triggers “full maternal behavior, including preoccupation with the infants, suckling, and keeping the infants warm, clean, and safe” (Churchland 2011, 33-34; Bell 2001; Broad, Curley and Keverne 2006; Hrdy 1999, 151-56; Liberman 2013, 93-94). In fact, the development of oxytocin and the closely related vasopressin some 200 million years ago appears to be one of the key biochemical developments that set early mammals apart from their reptilian ancestors. While most reptilian parents will flee from or kill any of their offspring they encounter, oxytocin encourages the desire for closeness and contact necessary for breastfeeding (Bell 2001).

How exactly oxytocin works to stimulate parenting behaviors is not entirely understood, but one account suggests that the release of oxytocin in the brain leads to the release of dopamine and other endogenous opiates, causing mammalian mothers to associate caregiving with decreased feelings of fear and anxiety and higher pleasure and contentment (Churchland 2011, 55, 63; Liberman 2013, 92-94). In any case, a large number of animal studies support the

central role of oxytocin in maternal caregiving. While female sheep rarely show concern for unrelated orphaned lambs, for example, virgin sheep that were given oxytocin injections displayed full maternal behaviors including bonding with unrelated lambs (Keverne 1988; Keverne and Kendrick 1990). High levels of oxytocin have further been found to correlate with high levels of maternal behavior in rats, prairie voles, monkeys, and human beings (Churchland 2011, 53; Hrdy 2009, 215). Among human beings, researchers found a strong association between mother's oxytocin levels and various positive cognitive and behavioral elements of mother-infant bonding (Feldman et al. 2007). Conversely, when an oxytocin antagonist is given to a mother rat or mother sheep, or oxytocin receptors are blocked, the mother will not care for her infants leading to high rates of infant mortality (Bell 2001, 223; Churchland 2011, 50; Liberman 2013, 159).

Oxytocin production and uptake is coded for in our genes. Specific genes have been found to increase the human brain's sensitivity to oxytocin, and these genes are correlated with higher levels empathy (Rodrigues et al. 2009; Tost 2010). While a person's production and sensitivity to oxytocin is thus in part genetically determined, it is also affected by the level and type of care that he or she receives when young (Churchland 2011, 53; De Dreu 2010, 1411). Rat pups whose mothers produce high levels of oxytocin produce high levels of oxytocin themselves in response to their mother's licking and grooming behaviors. When these female pups mature and have their own litters, they too have high oxytocin levels and are highly caring, and their pups similarly produce high levels of oxytocin (Champagne and Meany 2001). In humans, high levels of oxytocin in mothers likewise correlates with high levels of oxytocin in babies (Feldman et al. 2010). Even if human beings are naturally primed for oxytocin production, therefore, the

expression of this trait appears to be activated in part by early social and environmental experiences.

In addition to facilitating maternal care for infants, oxytocin has been implicated in a variety of other caring behaviors. For instance, oxytocin is present in males and associated with more nurturing behaviors (Bell 2001, 22; Churchland 2011, 49). In males, however, the closely related peptide vasopressin is more abundant. Vasopressin, too, has been found to motivate parental care, but is associated with higher levels of aggression, typically in defense of mates and offspring (Batson 2011, 50; Churchland 2011, 49). Oxytocin also appears to play a role in motivating alloparenting behaviors (that is, care of young by non-parents), and along with vasopressin to be important in forming partner bonds in human beings and some other mammals (Churchland 2011, 33-34, 48-53, 56-57; Hrdy 2009, 213-15; Scheele et al. 2013). Oxytocin also appears to make a significant contribution toward motivating more general, social caring behaviors in humans. Larger numbers of oxytocin receptors in the human brain are associated with greater empathy, generosity, and other-regarding behaviors (Churchland 2011, 50; De Dreu 2010, 1408). In laboratory experiments, individuals who were given doses of oxytocin using a nasal spray and then asked to play a variety of economic strategy games were much more likely to exhibit trusting and cooperative behaviors than individuals who were not given oxytocin. In other experiments, individuals who were given oxytocin were significantly more generous and empathetic to others (Kosfeld et al. 2005; Zak et al. 2007). In short, oxytocin and related compounds appear to play an important role in our generalized concern and empathy for others.

Consistent with the predictions of evolutionary theory, oxytocin nonetheless does not support indiscriminate care and concern for others but inclines us primarily toward in-group care. In animal research, for example, while oxytocin is associated with higher maternal and in-group

benevolence, it has also been found to generate feelings of heightened anxiety and aggression toward strangers (Bell 2001, 221; Churchland 2011, 50). Similar effects have been found in human beings. When laboratory experiments are devised so that individuals are confronted with the choice between helping in-group or out-group members, individuals who inhaled oxytocin show increased bias and favoritism toward in-group members (De Dreu et al. 2010; 2011).<sup>8</sup>

Carsten De Dreu and his colleagues (De Dreu et al. 2011, 1265) who conducted these experiments conclude one of their studies:

There is no doubt that oxytocin is implicated in the development of trust, empathy, and prosociality, but these tendencies appear limited to individuals belonging to one's in-group. Thus, rather than making humans prosocial, oxytocin functions to strengthen an evolutionary evolved and rather functional tendency to discriminate between in-group and out-group as well as to give members of one's own group preferential treatment.

Such ethnocentrism has adaptive value to individuals and their groups but, unfortunately, also paves the way for intergroup bias, conflict, and violence.

Depending on circumstances, and particularly the degree to which members of one group perceive others as potential threats, the very same genetic and physiological adaptations that underlie the motivation to care for others can also give rise to their opposite.

Oxytocin, vasopressin, dopamine, and the like are certainly not the sole physiological bases of caring motivation in human beings. The brains of human beings, primates, and other mammals also appear to be wired to make us feel pain when we witness the pain of others (Churchland 2011, 34-40; Liberman 2013, 153-155). In one study, individuals who watched

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<sup>8</sup> De Dreu et al. did find mixed support for out-group derogation in one experiment, but did not find any support for this finding in any of their other experiments (2010; 2011). Importantly, all experiments included only male subjects. It is thus unknown whether oxytocin triggers what De Dreu et al. dub the "tend and defend" response in women.

others receive shocks to their hands or feet generated electrical responses in their own hands or feet, mirroring what they saw. When they saw someone's hand shocked, their brain sent a signal to their own hand, but when they saw someone's foot shocked, their brain sent a signal to their foot (Avenanti et al. 2005). This mirroring effect explains why we are likely to wince or flinch when seeing another person being shocked or hit (Lieberman 2013, 153). There are nevertheless a number of ways we might react to the pain of others, not all of them caring. We might turn away or flee from others in distress in order to protect ourselves from unpleasant feelings or even experience glee if we place negative value on their welfare (Batson 2011, 41-2, 61-3). In order for our mirror reflex to give rise to caring motivation, we must have feelings of caring concern for the person experiencing the pain – perhaps because we already know them or identify with them, recognize in them a similarity to our own children, partners, or kin, or feel some sense of responsibility for them and ability to help them (Bloom 2013, 43-7). Oxytocin, vasopressin, dopamine, serotonin, and other related hormones and neurotransmitters would generally appear to be behind these feelings of caring concern.

### Ethology and Behavioral Studies

Thus far, I have argued for an innate or natural basis of caring motivation in human beings based on evolutionary theory and neurobiological research. If the motivation to care is innate in human beings, there should also be behavioral evidence for it. In fact, there is a great deal of empirical psychological evidence supporting the existence of empathy and caring concern in human beings, including a willingness to behave altruistically (Batson 1991; 2011; Hoffman 2000). As noted above, Haidt and his colleagues (Graham et al. 2013) have further found evidence for a near universal disposition to care among individuals from diverse religious and cultural backgrounds. Experimental psychology thus provides strong evidence for an innate



disposition to care in human beings. Since most psychological studies on empathy and altruism have been carried out on adults, however, there is no way to discern whether the caring dispositions detected by them are rooted in natural impulses, cultural conditioning, social pressures, or other factors.

Where the goal is to demonstrate a natural basis of caring concern in human beings, probably the most compelling behavioral evidence comes from research on primates and human infants.<sup>9</sup> Primates are the nearest genetic relatives of human beings among existing species, with chimpanzees and bonobos sharing over 98 percent of our DNA. The prefrontal cortex in primates is nonetheless smaller relative to body size and less dense in neural pathways than in humans. Since the prefrontal cortex is generally associated with self-control, choice, reasoning, and behavioral adaptability, primate behavior is often thought to provide some insight into the innate, physiological tendencies behind human behavior.

A broad body of research supports the existence of a natural inclination to care in primates (De Waal 2006; 2009; Hrdy 1999; 2009). Virtually all primates, for example, show an innate attraction and responsiveness to infants (Hrdy 2009, 217, 229). Moreover, while many mammalian mothers are quite selective about which babies to care for, most primate mothers provide care without exception: “No matter how deformed, scrawny, odd, or burdensome, there is no baby that a wild ape mother won’t keep” (Hrdy 2009, 70). Chimpanzee, bonobo, gorilla, and orangutan mothers hold their babies almost obsessively. The earliest, for example, that a

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<sup>9</sup> Graham et al. (2013, 112) note, “The case for innateness grows much stronger when a behavior or ability is found in non-human primates (particularly chimpanzees and bonobos) and when it can be shown to emerge in young children before they have been exposed to relevant teaching or reinforcement.”

wild chimpanzee mother has ever been observed to voluntarily let a baby out of her grasp is at three and a half months (Hrdy 2009, 68).<sup>10</sup>

In the overwhelming majority of primates, males also provide special protection for the offspring of females with which they have mated (Hrdy 1999, 215-16; 2009, 158-161). In many species of monkeys – albeit not most apes - males further engage in extensive care of the young, with some males carrying babies for as much as 90 percent of the time (Hrdy 2009, 88-89, 160-61). As Hrdy writes (1999, 209), “If the circumstances are conducive, almost any primate male can be induced to behave in a nurturing way.” Human males, too, appear genetically primed to care for infants. Men undergo physiological changes, for example, just from spending time in intimate association with pregnant mothers and new babies.<sup>11</sup> These physiological changes suggest that the prewiring for care is present if only the circumstances are right.

There is more generally extensive evidence for a general caring concern among primates (De Waal 2009; Langergraber et al. 2007). Chimpanzees regularly groom one another, support one another, and share food – usually keeping track of who has previously done them a good turn and reciprocating in kind (De Waal 1997; Gomes et al. 2009; Koyama et al. 2006; Melis et al. 2008). A great deal of anecdotal evidence further supports the existence of empathic and altruistic-type behaviors among apes and monkeys (De Waal 2006, 29-36; 2009, chapter 4, *passim*). In experiments, chimps have been shown to help other chimps and humans without expectation of a reward (Greene 2013, 38-39; Warnken and Tomasello 2006; Warneken et al. 2007; Warneken and Tomasello 2009). When given a choice between rewarding themselves only

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<sup>10</sup> As Hrdy (2009, chapters 3 and 4) argues, this style of mothering is not optimal for humans or even ideal for nonhuman apes. But it does lend support to my claim about a natural disposition to care. Given the dangerous circumstances in which they live, nonhuman mother apes would rather cling to their babies day and night rather than risk their harm or death.

<sup>11</sup> Just a mere 15 minutes of holding an infant produce measurable increases in a man’s circulating levels of prolactin. Such prolactin effects are more pronounced in experienced fathers holding their second-born infant, possibly because experienced fathers are presensitized. Such men also hold babies more (Hrdy 2009, 169).

or also rewarding another monkey, capuchin monkeys and marmosets likewise overwhelmingly choose to reward the other (De Waal 2009, 112-13, 193; Hrdy 2009, 96-8; Lakshminarayanan and Santos 2008). Alternatively, hungry rhesus monkeys will refrain from pulling a lever to get food if doing so will give another monkey a painful electric shock (Bloom 2013, 48).

Consistent with the evidence from evolutionary theory and biology, primate care nonetheless tends to be directed only toward kin and reciprocating group members. In the experiments mentioned above, for example, chimps will usually only pull a rope that delivers food to themselves and another chimp if the other chimp is kin or an ally. If the other chimp has no significant relationship to them, most chimps are indifferent to their welfare (Hrdy 2009, 35-6 Jensen et al. 2006; Silk et al. 2005) In the experiment on capuchin monkeys described above, the probability that the monkey would benefit others likewise varies depending on the closeness of their relational ties (De Waal 2009, 113, 194).

If primates provide one source for discerning our natural inclinations, human infants offer another. Because newborns and young toddlers have had little opportunity to learn behaviors from others, many of their early behaviors can be assumed to be prewired. Newborns lack, of course, a number of capacities necessary for the full expression of care and empathy, including physical mobility, strength, and the ability clearly to differentiate self from others. Nonetheless, the capacity for rudimentary care and empathy appear to be innate within them from birth. “Right from the first days of life,” Sarah Hrdy writes that “every healthy human being is avidly monitoring those nearby, learning to recognize, interpret, and even imitate their expressions” (Hrdy 2009, 7, 115-16 ). Newborns cry in response to the cries of other babies and mimic the facial expressions of adults. Even if these behaviors fall short of caring concern, they at least provide evidence that newborns respond to the cues of others and, in the case of crying,

are distressed by vocalizations of distress (Bloom 2013, 47-48; Eisenberg et al. 2003; Hoffman 1981, 64-66). As noted above, newborns further come into the world with a need for attachment and undergo physiological changes (related to oxytocin production and receptors) depending on the level and quality of care provided for them. This, too, suggests that the biological bases for caring behavior are prewired within us at birth.

By the time they are three to six month-olds, babies are able to distinguish helping from hindering puppets in short skits and overwhelmingly prefer the helping puppets over the hindering ones, sometimes even hitting the latter (Bloom 2013, 7, 27-28; Greene 2013, 46-7). By twelve to eighteen months-old, children will pat and stroke others in distress, share resources with others, provide helpful information to others in need, and help others to achieve their goals (Hoffman 2000, chapter 3; Warneken and Tomasello 2006; 2009). Felix Warneken and Michael Tomasello (2009, 397), who have carried out studies on helping behaviors in both human infants and chimpanzees, observe: “The early ontogenetic emergence of spontaneous helping in young children and its presence in our nearest primate relatives, suggest that helping others with their instrumental goals somehow comes naturally to humans, not exclusively through cultural transmission or explicit teaching.” We are, in other words, prewired to care.

Human babies are nevertheless also highly parochial. They quickly develop a preference for individuals who look like their primary caregivers, favor speakers who talk like their primary caregivers, prefer to accept toys from native over non-native language speakers, and even react favorably to individuals who treat similar others well and dissimilar others poorly (Bloom 2013, 105, 111; Greene 2013, 50; Hamlin et al. 2013). These tendencies are evident in human adults, too. While adults generally show a high level of willingness to help out others in need in experiments and emergency situations (Batson 2011; Hoffman 2000), their self-reported

willingness to help varies directly according to their genetic relatedness to the person in need (Fiske 2010, 350). In experiments, adults further tend to be much more willing to help in-group members or individuals they associate with than out-group members, even when their group assignments are arbitrary and meaningless (Fiske 2010, 374-5, chapter 11; Bloom 2013, 114-119; Greene 2013, 48-55).

Drawing together the insights from evolutionary theory, neurobiology, and behavioral studies, we may conclude that “the circuitry for caring” is innate in human beings and probably underlies a good part of our moral behavior (Churchland 2011, 8, 71 *passim*). “We may assume,” Frans De Waal adds (2006, 24), “that empathy first evolved in the context of parental care, which is obligatory in mammals,” and then expanded to encompass concern for kin and other group members. The genetically based caring of parent for child thus “may provide a biological substrate for all intrinsic valuing of another’s welfare” (Batson 2011, 46). Our natural disposition to care for others is nonetheless limited. It evolved to incline us to care for kith and kin and others who support our survival and the survival of our kith and kin, but leaves us for the most part indifferent to the welfare of others. In some cases, it can even give rise to aggression and violence, particularly when we feel threatened by others.

#### Care in the State of Nature

Whatever else this brief survey of evolutionary theory, neurobiology, and behavioral psychology may suggest, it certainly upends traditional views of human beings in the state of nature. Hobbesian, Lockean, and Rousseauian accounts of state of nature are, as Frans De Waal notes, leftovers “from pre-Darwinian days, based on a totally erroneous image of our species” (De Waal 2009, 21). Although there can be little doubt that human beings are in part self-interested creatures, we are also clearly disposed to care for others. The disposition to care is

certainly not the only or perhaps even the predominant sentiment in us, but it is a very important one. Any theory of politics or morality that ignores this sentiment will be at best partial and probably misleading in important ways.

Care theorists (Held 1993, 195) have long criticized state of nature stories for ignoring the importance of care. Even correcting for this oversight, there are reasons to be skeptical about state of nature accounts. Whatever human beings' innate dispositions, their expression depends in large part on environmental circumstances. Thus, in any state of nature scenario, a great deal depends on whether one imagines nature to be a place of scarcity or plenty, high or low population density, and other background assumptions. Despite these concerns, I elaborate below an account of the state of nature. My account is based on the probable living conditions of Homo sapiens in the years prior to the development of the first agricultural settlements roughly 12,000 years ago. The individuals who lived in these hunting and gathering – or foraging – communities were anatomically and genetically identical to modern humans, but had not yet moved into settled political communities (Boehm 2012, 82). Hence they provide some insight into human behaviors in a pre-civil state. The value of imagining human beings in this pre-civil state of nature is twofold. First, it offers a more realistic vision of the state of nature that can replace the misguided theories of Hobbes, Locke, and Rousseau. Until these classic theories are replaced with a more realistic theory including the disposition to care, they will continue to influence people's thinking and behaviors and contribute to anti-caring biases. Secondly, the state of nature story I outline below helps to translate the ideas about human nature discussed in previous sections into a working model of society. This, in turn, highlights the main moral and political problems that arise from human nature itself. Remarkably enough, in today's global society, the most fundamental moral and political problems we face are at root the very same ones that early

humans confronted in trying to bring people together to live in the very first sedentary agricultural societies: how to motivate individuals to expand their natural caring dispositions beyond kith, kin, and tribe in order to engage in ethical caring for strangers. (Greene 2013).

Prior to the Neolithic era, human beings probably lived in small, multi-family groups consisting of about 25 to 35 members.<sup>12</sup> Care and loyalty to individuals within these groups probably tended to be high, but most individuals were probably indifferent to most outsiders. Because human population densities tended to be low, contact between groups was probably infrequent (Hrdy 2009, 18-19, 29). There is no clear evidence of widespread warfare among human groups prior to the Neolithic Age, but group warfare may have taken place depending on circumstances – particularly when one group perceived another as a threat (Boehm 2012, 77; Hrdy 2009, 19-20; see, however Choi and Bowles 2007). Small skirmishes and occasional raids seem more likely (Boehm 1999, 221-23).<sup>13</sup> Some groups may have further forged loose alliances with one another based on cross-group kin membership and rudimentary exchange relations (Hrdy 2009, 26).

Early human groups in the pre-civil state of nature were also very likely egalitarian (Boehm 1999; 2012, 69, 82, 95-6, *passim*). As much as some individuals may have wished to rule over others, nearly all human beings appear to have a natural revulsion (perhaps rooted in basic survival instincts) to being dominated. Thus, in most existing hunter-gatherer human groups, counter-dominant coalitions regularly form to shame, banish, punish, and sometimes kill bullies, free-riders, and other anti-social types who try to dominate or take advantage of others in

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<sup>12</sup> This account of life in the late Paleolithic is based on Boehm (1999; 2012) and Hrdy (1999; 2009), and to a lesser extent Diamond (2012). Boehm and Hrdy provide much more detailed descriptions of human life in late Paleolithic times, while Diamond describes life in contemporary traditional societies which tend to be larger, more settled, and in more continuous contact with other human societies than the hunter-forager groups that existed prior to the Neolithic Era.

<sup>13</sup> As Hrdy (2009, 28) notes, however, “once local conditions promote the emergence of warlike societies, that way of life (as well as the genes of those who excel at it) will spread.”

the group. As a result, most hunter-gather societies are relatively egalitarian, but mostly for counter-intuitive reasons. Christopher Boehm (1999, 9-10) explains: “egalitarianism does not result from the mere absence of hierarchy, as is commonly assumed. Rather, egalitarianism involves a very special type of hierarchy, a curious type that is based on *antihierarchical* feelings.”

The status of women in the prehistoric state of nature probably varied between groups, but in general women probably enjoyed more power during this period than they did in nearly any society after the Neolithic Revolution until relatively recent times (Boehm 1999, 4-9; Boehm 2012, 80; Hrdy 1999; 2009; Wood and Eagly 2002).<sup>14</sup> Women may have engaged in hunting in some prehistoric communities, but even if they did not, they would have still played an important role in the economy of these groups since foraging accounted for the majority of calories consumed by early humans (Boehm 2012, 137; Hrdy 2009, 147). Women likewise were probably actively involved in the politics of the group, including the shaming and punishing of bullies and freeloaders. Perhaps most importantly, these early human communities may have had a matrilocal basis. Until recently, it was generally assumed that early human societies were patrilocal with men staying put in their groups and trading sisters and daughters between groups. This received wisdom, however, ignores the centrality of care to early human existence. Hrdy (2009, chapter 8) argues, by contrast, that it would have been very adaptively advantageous if women remained within their kin groups to have and raise children in pre-Neolithic societies – with males moving from one group to another for reproductive purposes – since giving birth near kin greatly increases the chances of survival for a woman and her baby. If Hrdy is correct, then many early human groups may have been organized primarily around female kin relationships,

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<sup>14</sup> Men’s greater upper-body strength and speed made them more efficient agricultural workers than women. At the same time, the increased food supply increased the number of living offspring, placing greater demands on women for nursing. Over time, these “small differences” became “much magnified” (Hrdy1999, 211-13).



somewhat similar to groups of bonobos today where female alliances are central to group relations (Boehm 2012, 109-110).

Based on biological evidence and observations of hunting and gathering people, Hrdy further argues that early humans almost surely depended on alloparents, or community caregiving, to raise children (2009, chapter 5; see also Diamond 2012, 186-90). The nutritional and other demands of life in hunter-forager groups would have made it very difficult for individual parents to meet their own needs as well as those of their children by themselves – particularly pregnant women who already had children. A brief survey of caretaking practices across traditional hunting and gathering peoples – the closest proxies for Pleistocene hominins we have – reveals the nearly universal prevalence of alloparenting (2009, 73-79). “Around the world, wherever traditional ways of life persist...” Hrdy writes (77-8), “shared care is the rule.” Researchers have found that fathers play on average a much greater role in the care of children in hunter-gather societies than in any other form of community (agricultural, pastoral, industrial), so they probably played a significant role in the care of their children. Older women and grandmothers, however, probably performed a large part of child rearing in early humans societies, thereby freeing up younger women and men to hunt and forage (Diamond 2012, 187; Hrdy 2009, 126-132, 161-2; chapter 8).

I do not mean to romanticize human life in the prehistoric state of nature. Everyday subsistence was no doubt very hard. Small-scale conflict was probably common within groups, and occasional acts of violence – probably mostly aimed against bullies and freeloaders – would have occurred. This description of human life in a pre-civil state of nature nonetheless provides an important corrective to the theories of Hobbes, Locke, and Rousseau, and helps to elucidate a couple of important moral and political points.

First, the state of nature certainly was not a war of all against all. Most individuals would have had a great deal of difficulty surviving outside their groups, and children in particular would not have survived without kin networks (Hrdy 2009, 18-19). Even if warfare was more frequent than indicated above, it still would have been between groups and not individuals. Secondly, human beings did not naturally live in traditional patriarchal families, as Locke supposed, or follow any universal moral law. The “typical or natural Pleistocene family,” according to Hrdy (2009, 166), was “kin-based” and “very, very flexible,” with ambiguity surrounding the paternity of many children.<sup>15</sup> Alloparenting, or community care, would have been the norm. Care and compassion would have been strong within groups, but it seems farfetched to posit the existence of anything like a universal natural law among human beings in the state of nature. Thirdly, the historical state of nature bears very little resemblance Rousseau’s vision of human beings as solitary and self-sufficient creatures. Even though Rousseau recognized pity as an innate human characteristic, he greatly underestimated the degree to which we are naturally disposed to care for our children and kin and form communities around them.

The above description of human life in the pre-civil state of nature further helps us to understand the main moral and political challenges that human beings face because of our innate nature. Contrary to the views of classical theorists, human beings already lived in relatively orderly groups with fairly effective self-policing practices in the state of nature that existed during the late Pleistocene. In moving to larger, more settled agricultural civilizations, the main moral and political problem they faced was not so much how to forge morality and order out of chaos as how to encourage individuals who already existed in and identified with families and groups to care for others beyond their kin and tribes. Whether we look to the challenges facing

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<sup>15</sup> Many traditional groups believe that fetuses are a composite product of several different men with whom the mother had sexual relations. All these “fathers” typically cooperate in rearing “their” children (Hrdy 1999, 246-7).

the early Greek polis – immortalized in dramas such as Aeschylus' *Oresteia* and Sophocles' *Antigone* – the formation of the state in early modern Europe, the consolidation of the United States into a nation, or the consequences of state failure in contemporary Rwanda, we find the same problem continually reoccurring. In all cases, the central moral and political challenge involves melding groups together and getting individuals to care about individuals beyond their self-identified in-groups. The collapse of domestic sovereignty and return to the state of nature does not so much lead to anarchy as group conflict and sometimes genocide.

Here, then, the importance of care ethics as a moral and political theory comes into focus. Care ethics is the moral and political theory *par excellence* for studying what it means to care for others – on an individual, family, social, and international level – and for exploring how a caring concern can be fostered across diverse individuals and groups. While care ethics often stands in some tension with our natural caring dispositions – prodding us to care somewhat differently or more broadly than we might be innately disposed to do - it does not ignore or disdain our natural dispositions altogether in the manner of Kantian ethics, (many accounts of) utilitarianism, Rawlsian justice, or other dominant moral and political theories. It acknowledges the justifiability of our inclination to show partiality toward family and friends, for example, while at the same time attempting to expand our natural moral sentiments and challenging us to consider when and if our partiality is justifiable (Engster 2007, 58-64; 2011, 97-100; Slote 2010b, 21-25).

Care theorists have typically been more concerned to say what it means to care for others than how our natural caring sentiments might be extended to include others. Of course, the two subjects are not entirely distinct. Caring for others through social welfare policies increases levels of trust within states and higher levels of trust tend to make individuals more willing to extend caring concern toward others (Rothstein and Uslaner 2005). Nevertheless, care theorists

probably need to think more deeply about how our natural dispositions to care can be broadened to support the idealized visions of care they endorse in their accounts of care ethics. A few points are relevant to consider in this regard.

First, care theorists need to be more aware of the parochial nature of our innate caring dispositions. Capitalism, nationalism, racism, and other ideologies no doubt divide us from one another and encourage us to define our group identities narrowly. Yet, they are not solely to blame for our narrow and sometimes discriminatory moral views. We are primed for these views by our innate caring dispositions. The very same neurobiological processes that dispose us to care for others also incline us to identify with particular groups and show preference for in-group members over others. This observation need not, however, be reason for despair. Our natural caring dispositions may be parochial, but they at least provide an innate basis within us for engaging people and directing them toward broader ethical care.

Secondly, care theorists should probably be more sensitive to the ways in which social conservatives, neoliberals, and others are themselves committed to a morality of care. Social conservatives and neoliberals generally display a great deal of care for families, church, and country. They merely define the morality of care in more traditional and parochial ways than most care theorists do. They generally oppose big government as well as international organizations, for example, on natural caring grounds: these institutions violate our natural tendencies to care for ourselves, our families, and our communities and force us to direct us to care for outsiders or strangers (Greene 2013, 343). Many conservatives likewise oppose social welfare because they claim it supports freeloaders and cheats who do not contribute their fair share to the group. In short, many conservatives hold to an understanding of care that is in many ways closer to our natural dispositions than the more idealized account of care theorists. They

strongly favor family, kin, and in-group loyalty over broader moral and political commitments which they feel - literally feel in their brains - threaten basic human values and modes of existence (Greene 2013, 336-344).

Now, to say that the conservative understanding of care is more natural is not to say it is better. As Noddings (1984, 81-83; 2002, 29-31) pointed out long ago, natural care is not the same as good care. We generally need to look beyond natural care in order to assure that our care is ethical. Even so, it does seem important to understand where conservatives are coming from especially if we want to change the direction they are going. Conservatives are in large part caring people (no less so than liberals or feminists). The challenge for care theorists is convincing them to accept an expanded understanding of care that encompasses individuals outside their in-groups. How care theorists might do this is a difficult question about which I, unfortunately, do not have any ready answers. But care theorists can at least take heart from the knowledge that, at end of the day, we all do share at least one thing in common: we are all innately caring people.

### Conclusion

Human beings are not the narrowly self-interested, solitary creatures of traditional social contract theories. We are all born (with only rare exceptions) with a natural disposition to care for others. This disposition is quite sensitive to environmental factors and is most fully activated only in highly caring environments, but it is written into our genes and biochemistry. The origins of this natural disposition to care are speculative, but there are good reasons for thinking it initially developed out of a very basic mammalian (or near mammalian) adaptation to care for one's offspring, and eventually expanded in social mammals to encompass care for kin and other supportive group members (as-if kin). By the time our hominin ancestors had developed into

recognizable human beings, they inhabited a state of nature that was already social and contained a great deal of care within groups (e.g., alloparenting). Life was no doubt brutish and short for these early humans, but it was not solitary or even necessarily nasty. Early humans lived in societies organized around care. While political and moral theorists would be foolish to ignore the selfish and egotistical drives within human beings, they would be just as foolish to ignore the fundamental importance of our innate dispositions to care. Ignoring the natural human disposition to care distorts our understanding of human nature and the underpinnings of morality and society.

So what does all this mean for moral and political philosophy? It means, first, that we need to be careful about accepting the conclusions of any theorists who do not take seriously the fundamental importance of care. Political philosophers who ignore our caring dispositions may have some useful insights to offer, but their philosophies will ultimately be deficient. In light of the evidence from human evolutionary theory, neurobiology, anthropology, ethology, and experimental psychology, it is not care ethics that appears naïve and unrealistic but the supposedly realistic moral and political theories premised upon the egotistical and individualistic economic man. Secondly, and closely related, this analysis highlights the importance of the recent emergence of care ethics for addressing some of our most fundamental moral and political problems. Many of the most trenchant moral and political problems are rooted not in human selfishness or any natural penchant for chaos or disorder but rather in our natural disposition for parochial care. Once we recognize this point, it becomes evident that the individualistic solutions that philosophers have often devised for addressing our moral and political problems are misguided. The solution for many of our most basic moral and political problems depends not on

finding ways for binding individuals together but instead extending human beings' innate caring dispositions beyond our families and groups. For this task, care ethics is indispensable.

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