

**Caring, Empathy, and the Commons:
A Relational Theory of Collective Action**

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Chapter 1

Introduction: Caring for the Commons

In a classroom in Wallenpaupack, Pennsylvania, a teacher has his fifth grade class link up, online, with another classroom, in Kibera, Nairobi, halfway around the world. Looking at each other through the screen, the two groups think of something to do. They talk. His class sings a song that they had been practicing for St. Patrick's Day. The students in Nairobi sing back to them their national anthem in Swahili. Just another ordinary day in class, except for the oceans between them. The call ends, and both classes retreat to their respective places. The teacher in Pennsylvania turns to his students, and he sees tears in their eyes.

What is it about the otherwise ordinary meeting that so moved those children (and their teacher)? It was just another day in class, after all. What is it about these commonplace moments of everyday life that move us?

This book is about the wonder of connection. A child looks at the monitor and sees, beyond the screen, an other on the other side looking at her, and in that moment, there is the experience of connectedness. There is another person there, I look at her, and she looks at me, and it's no longer simply a gaze but an encounter.

What happens in that moment? As we will explore in the book, in that brief encounter we no longer just have two individuals in the world, floating like random atoms in space, but two beings somehow bound. Having so encountered the other, I no longer am simply myself, sitting with my

Connectedness

The main idea behind the book is that a powerful mechanism exists, which can foster collective action, one that has not received systematic treatment in the commons (and political economy) literature. Connection, whether face to face or virtual, whether formal or informal, can build empathy. Empathy, in turn, encourages people to think, feel, and act relationally --i.e., to care for the welfare of one's self *as well as the other*. This mode of being and thinking, which we term relationality, is a natural condition. Furthermore, there are ways to foster this kind of relationality in all sorts of institutional contexts. Some circumstances foster relational thinking and being, while other situations, or institutions, suppress it. We cannot expect busy people in the busy city to act on the problem of melting glaciers a world away -- unless they care. In this book, we develop a formal model of relationality and proceed to study the evidence supporting it and the ways we already see it at work in real-world situations. Towards the end of the book, we explore the idea that relationality often does not act in lieu of other strategies (such as market-centered or state-centered or community-centered approaches to fostering collective action) but complements them in vital ways.

solitary thoughts and concerns. Rather, I find myself feeling, thinking, and wondering about, and with, the *other*. Early phenomenologists called it intentionality. Speaking of atoms, it's like a single hydrogen atom floating by itself in space --a condition unstable enough that chemists refer to it as a free radical. When two such free radicals bump into each other, they invariably form a covalent bond and, at that point, float around in space as the hydrogen molecule that we know and cherish. All chemistry aside, what we have in an encounter is the emergence of relationship.

This knowledge of, and connection with, an other can evolve into care. The other being now matters. Care is a powerful thing. It affects who I am and what I do in life. The many thinkers and writers who have drawn our attention to the phenomenon of care provide an antidote to the conventional presumption, which we have built into our cultural and institutional fabric, that people primarily go about their business looking out for themselves. But, as philosophers and psychologists alike, have argued, care is a natural human condition. Our tendency, upon encountering another, is to care. When we develop an empathy for the other, we can hardly avoid beginning to act on it. This book is about the human potential for care, and the promise it holds in the face of the many challenges confronting the world today.

It starts with making a connection. When we speak of an "other", we don't mean an abstract being but an individual, flesh-and-blood human (or nonhuman) being. Charitable organizations have practiced this theory without ever conceptualizing it as they have learned, from experience, that people respond to charitable appeals when they learn not about some general condition, but about the specific people in need. In many cases, they connect potential donors directly with individuals in need.¹ One might frame this as marketing strategy, but a more accurate description is that it is a recognition of each person's need for connection. Once we connect, not to an idea or a general situation, but to the specific other, then we begin to exhibit what has been referred to as other-regard.

Coffee Means People and Nature

HOPE Coffee is a coffee retailer that practices Direct Trade, which strives to link the coffee buyer directly to the farmer. Logistically, they deal with the farmers directly, usually financing some of the farmer's expenses up front and removing the need for middlemen. In human terms, they try to connect buyer and farmer in different ways. On their website*, one can read about Norma and Armando, fourth generation farmers in Guatemala who used their funds to start a school for farmers' children; and listen to Rodimiro of Honduras, who hopes to share his knowledge of coffee with growers from other countries. One can buy a box of coffee and see a picture of the farmer who grew the beans in it. Buyers can even send messages of encouragement to the farmers.

¹ Some charities (e.g., World Vision) individually match donors and recipients.

As Kaysi Stanley (marketing manager for HOPE Coffee) explains, it's done this way because it's not just a financial transaction. "A good way to describe it is we have a relationship with our farmers... I've been to Honduras, I have met Rodimiro... that relationship is really key because... we know about the farmer and their family and their struggles and what they want to happen... [And] they know us... that we're not going to move away from them and our relationship with them."

Why would they show a picture of the farmer on a box of coffee? She explains: "When you buy a bag [of coffee] at the grocery store. Nobody really thinks about where it came from... [but] To pick up a bag of coffee and see the picture and the name of the farmer who grew the coffee and see the link where I can go to and read the stories about where and what my dollars went to... where it goes because now the family has a home, now this child has an education... that's a completely different thing... So when you buy a bag of coffee, you see the farmer."

The group also uses its proceeds to support civic projects in the farm communities. The organization is the natural point of contact between supplier and buyer, but they want the customer to have an even more direct link to the grower. "How do we make our customers feel more connected to the farmers, to where the coffee is coming from? And how do we make them feel a part of it, because they absolutely are... We wouldn't be able to do these things like build homes and distribute water filters and put remove some school buildings. We wouldn't be able to do that without the customers."

Later in this book, we take up the example of Direct and Fair Trade coffee as an illustration of some of the ways relationality is already being employed in everyday settings.

* <https://www.hopecoffee.com/meet-the-farmers/> accessed June 1, 2022.

The idea of caring for and about the other is closely related to the idea of collective action. Many problems in the world (poverty, crime, environmental squalor) are framed as issues that could be solved if only we could cooperate with one another and act for the greater good. The greater good, moreover, consists of those things that help not just you or me but all of us. For example, the City of New York expends much time and effort to pick up 1.7 million tons of litter from its streets and sidewalks each week; during the summer, the parks department removes 120 tons of litter each day from beaches and open spaces.² The logic of the collective action problem is straightforward: for each individual, it takes the least effort to just drop litter by the wayside instead of having to look for a

² https://www1.nyc.gov/html/dep/html/press_releases/17-054pr.shtml

receptacle. True, there are costs to littering, but these are mostly borne by other people, not just the litterer. And no one bothers to pick up the litter because they are waiting for someone else to do it (the free rider problem). The same logic can be applied to any number of situations. The world would have so much more of its tropical rainforests intact were it not for illegal loggers who flaunt the norms and remove many hectares of forest each year (Gutierrez-Velez & MacDicken, 2008). Again, the benefits are received by the individual loggers, while everyone else (including future generations) bear most of the costs. The coronavirus pandemic was undoubtedly worsened due to young adults eschewing face masks, because the greatest beneficiaries of such preventive action were not themselves but people around them, particularly the most vulnerable (Vale et al., 2020). Olson's collective action concept (Olson, 1965) and Hardin's environmental representation of this, the tragedy of the commons (Hardin, 1968), have proven great pedagogic tools for understanding a multitude of issues.

How do we solve such collective action problems? Enter Elinor Ostrom. In her pioneering book, *Governing the Commons*, Ostrom wrote about classic solutions to collective action, which revolve around the market and the state, and she added a third: community (Ostrom, 1990). She began her treatise with the conventional wisdom that, to induce individuals to act for the collective good, the state would need to regulate their behavior or, alternatively, a market be created such that the individuals are charged the monetary value of the disbenefit created by their behavior³. However, as Ostrom reasoned, these games are not simply played once but repeatedly and, in repeated play, others can exert social (or other) sanctions on individuals until they learn to act responsibly. In other words, as long as there exists some form of community that can set rules for acceptable behavior, monitor individual behavior, and sanction rule violations, then cooperation can be maintained without the state or the market. She and colleagues then proceeded to illustrate communitarian action with an impressive set of case studies (e.g., Benjamin et al., 1994; Agrawal and Ostrom, 2001; Dietz, Ostrom, and Stern, 2002; Poteete, Janssen, and Ostrom, 2010; Gutiérrez, Hilborn, and Defeo, 2011; Andersson, Chang, and Molina-Garzón, 2020, to name a few).

While upholding the veracity of Ostrom's collective action model, this book looks at yet other routes by which cooperation emerges. For one thing, we find many situations (as we will present) where there is no semblance of a community that can set rules and levy sanctions --and yet, individuals often act for the greater good. Some of the commons literature describe cases where sanctions were not predominant and, yet, longstanding collective action was maintained (e.g., De Moor and Tukker, 2015). Later in her career, Ostrom's work began to be more appreciative of other mechanisms that motivated individuals to act for the collective good. For example, Poteete, Janssen, and Ostrom (2010) describe case studies where individuals are driven not by external pressure imposed

³ Conversely, the individual can be paid to reduce such behavior, in the amount equal to the offset damages (Baumol and Oates, 1988).

upon them but by norms that the individuals themselves had internalized. Presumably, these norms still require some form of community to generate such norms over time. In this literature, norms work like another form of rule system like Ostrom described. However, there are other situations, which we will take up, when other-regarding behavior emerges apart from any discernible transmission or adoption of rules and rule-like norms, and apart from any coherent semblance of a community.

In this book, we explore another phenomenon, which is how a person, realizing a connection with the other, begins to care for the other's welfare and, so, adjusts her behavior accordingly. To be as specific as possible, by connection, we don't simply evoke a feeling of belonging to a group or a sense of responsibility for a common good --what we mean is a person's direct connection with another.⁴ Out of that connection arises a degree of empathy, which is an awareness of what the other experiences, feels, and thinks. Then, from empathy arises what we will refer to as other-regarding behavior. It is the transformation of individual cognition from one where she is cognizant of her own individual needs and wants, to one where her decisions take into account not only her own needs and wants but the others' as well. It is driven by connectedness, which can arise from membership in a community. Connection can also arise even when no coherent community exists --in these cases, we can use the more general language of the social network which is simply some group of interconnected individuals. Networks need not be rule-setting and sanctioning communities.

The potential of mere connection has not been looked into deeply enough. For example, the conventional wisdom is that face-to-face contact improves cooperation because individuals are able to coordinate their strategies (e.g., Falk, Fehr, and Fischbacher, 2002; Anderies et al., 2011). While the conventional wisdom is undoubtedly true, less appreciated is the effect of personal contact on the person's cognition of the other's perspective --in other words, its effect on empathy. It is undoubtedly true that collaborative, co-determinative modes of policymaking work because they allow trust and reputational effects that assure participants that people will abide by agreed-upon rules, but they also often work because participants learn to put themselves in the shoes of the other, which is one route to empathy.

In Ostrom and colleagues' case studies, community most often revolved around propinquity, kinship, shared history, homophily, or other determinant of a categorical group. However, in many instances of cooperative behavior in the world of today, we often find no strong assemblance of such a community that might set rules and coerce individuals to follow them.

⁴ Our treatment of relationality remains open to the whole continuum between Benhabib's notions of the generalized versus concrete other (Benhabib, 1992), where the generalized other pertains to a being with rights and moral status, while the concrete other pertains to the unique individual with unique life histories, dispositions, needs, and wants.

Millions of collective action problems are solved each day, mostly without the intervention of government, market, or community. In these instances, individuals act not because of some external reward or sanction but in response to something internal (or, as we will expound on, something relational). As will be taken up in subsequent chapters, researchers make fine distinctions between different kind of internal motivations. There is the so-called warm glow of giving, a hedonic pleasure a person feels from being charitable. Yet another internal motivation is a person's moral compass. In addition, there is a kind of internal motivation which emerges from the personal encounter one has with the other, and it is the condition of empathy. We will be more precise about what we mean by these terms in later chapters, but empathy can be understood as some awareness or concern for what the other experiences. In some other literature on collective action, this can also be referred to as other-regard. Empathy, in turn, can lead to relationality, which describes how one's behavior is mindful of the other.⁵

In this book, we formulate a relational model of decision-making. Relationality, which we will define in decision-theoretic terms in the next chapter, pertains to the condition where a decision-maker makes choices based not only on her own individual welfare (or utility) but also the other's. A more general definition of relationality is the condition whereby a person's thoughts, actions, and very being are influenced by one's relationship with the other. We will use the term, the *other*, to mean any person (or animal or thing) other than one's self. In institutional terms, relationality pertains to how a system (e.g., a commons) is governed with relational actors. The main requirement, for decision makers to assume a relational perspective, is empathy, which is the person's ability or inclination to care for the welfare of the other. Secondly, we underscore how connectedness, which is the establishing of some linkage from one person to the other, engenders empathy (and, as a result, cooperation).

The beauty of connectedness is that, in many cases, it does not take much for a person to feel a connection. A sense of connection (or identification) can emerge from almost any kind of interaction. Getting to know someone in person is a natural opportunity to establish a connection, but linking people can occur over distances through digital media as well. Sometimes, all it takes, to trigger other-regard, is some kind of indirect contact with the other, such as reading about a person, seeing a photograph or video, or even knowing the person's name. It is the realization that there is another

⁵ Note that altruism, which means acting solely for the good of the other or even sacrificing one's own benefit for the benefit of the other, is just one of many different conditions that are subsumed under the idea of relationality. Relationality simply posits that one's thoughts, actions, and being are influenced by the relationship with the other. Relationships are complex, as we will discuss later, and can be a complex of motives (including egoistic ones).

person there, which is not far behind the thought that, this person, like me, has thoughts and feelings and hopes and fears just as I have. The person moves from objectifying the other, as a category or thing, to humanizing -i.e., appreciating the presence of a kindred mind (Fiske, 2009). There is, as will be reviewed later in this book, considerable evidence from the psychology and neuroscience literature, of how people naturally empathize (to the point of feeling what the other person feels) when just shown a picture of a person in some situation of pain or other condition.

The human ability to relate seems boundless.⁶ Works of fiction have shown great potential for building empathy for human, as well as nonhuman, others. Some suggest that this works through narrative transport, which is about bringing a reader (or viewer) into a story and seeing through the eyes of the other (Green and Brock, 2000). Animated movies featuring animals as the main protagonists are thought to foster pro-conservation attitudes among children (King, 1996; Whitley, 2008). The movie, *Babe*, was thought to have encouraged a generation of vegetarians, presumably through empathy with the main protagonist (Nobis, 2009).⁷ Conservationists often tap into this potential, often anthropomorphizing non-humans to foster empathy for nature (Chan, 2012). Researchers have even found that presenting data in different ways, such as anthropomorphic techniques like using pictograms with human silhouettes instead of symbols, or associating pictures of people with the data, can successfully trigger greater empathy and reveal the people behind the data (Boy et al., 2017). Later in the book, we review evidence

The Connected Classroom

The teacher from Pennsylvania, Michael Soskil, recounts the experience of connecting with the classroom in Kibera and singing to each other: "When you have shared emotive experience, you bond with someone. That's how we develop friendships. Singing together was a way of making that happen."

He underscores the fact that the relationship was a mutual one, as relationships are. His students came up with a request from their counterparts in Nairobi: "What they decided to do is ask for the kids in Kibera to teach us Swahili because there is no foreign languages spoken in our hometown... The kids in Kibera would create a YouTube video and they would upload it on the same website teaching us Swahili, and we would play their videos on the morning news broadcast every week where the entire school, K-5, would get learn to count to ten or the months of the year or days of the week in Swahili."

⁶ An ability that should not be considered the sole purview of humans, as Jane Goodall reflects on interactions with chimpanzees (Goodall, 1986; see also O'Connell, 1995).

⁷ Note, however, that such movies may not always have the intended effect, such as the purported increase in commercial harvest and sale of tropical clownfish after the release of the movie, *Finding Nemo*, though some have contested this claim (Miltz and Foale, 2017).

But the exchange went the other way, as well: "The school director (in Kibera) ...explained how the water got into the school ...which was [through] garden hoses that were duct taped to PVC pipes, and he explained that during the rainy season in April, the pit toilets overflow and sometimes the water supply gets contaminated... so my students collaborated with a group of kids in Andover KS and a group of kids in Trikala, Greece to collaboratively raise money for water filters that would be able to protect the students, teachers and families in Kibera."

And, so, how might we encourage people in the middle of the busy city to care about melting glaciers? One way is through simple, affective connection, according to Soskil. He recounts another story: "I was in the middle of teaching and a teacher friend of mine from Nepal happened to call me on a video conferencing call unexpectedly... I decided to take the call, and I said to my friend 'Look I'm in a middle of lesson here, we're talking about climate change... do you want to tell us something about climate change in Nepal?' ...I had my students ask him questions and one of them said 'Well you're up on the mountains anyway so climate change isn't affecting you, right?' And he said 'No, what you don't understand is that we are surrounded by glaciers and snow pack and we are having crazy amount of avalanches that are burying whole communities, it more dangerous than ever there.' My students were: 'We never thought of that before!', and it gave them a different perspective just because it was someone at a different place and broke some of their preconceptions that they had."

suggesting how connectedness promotes empathy and, ultimately, pro-environmental behavior.

Connectedness underlies the logic of the social network. Network theorists have begun investigating how coordination and collective action can emerge from the establishment of a network, whether formal or informal. Relationality has not received much treatment in the social network literature, which sees links between nodes in a network in terms of formal ties or material exchange, and not so much in the emergence of empathy between these nodes. The beauty of the network lies in the fact that, while it encompasses a wide reach that touches, say, a thousand people, each person need not be connected to all the other people in the network. It suffices, for a network to be a network, for each person to be connected to even just one other person (as depicted in Figure 1 below). As we will discuss, in some situations, the collective action problem can be solved when a player is linked to just one other player in a large n network. In simpler terms, when we care for one other person, we might find ourselves in a way caring for everybody else in the process. It is a powerful notion, that what some refer to as the 'large- n ' problem might be solved by just reducing it to something simpler, which is the relationship between two actors: self and other.

In the classic communitarian model, as proposed by Ostrom, a community can establish rules (for resource use or other collective action), monitor

individuals, transmit norms, levy sanctions, bestow rewards, and establish reputations. But the logic of relationality can activate cooperation even in the absence of anything resembling an identifiable community. We will see examples of relationality that do not require propinquity or proximity, kinship or homophily, or other things that conventionally bind people into a community. Relationships can work even in the absence of rule-systems, sanctions, and community.

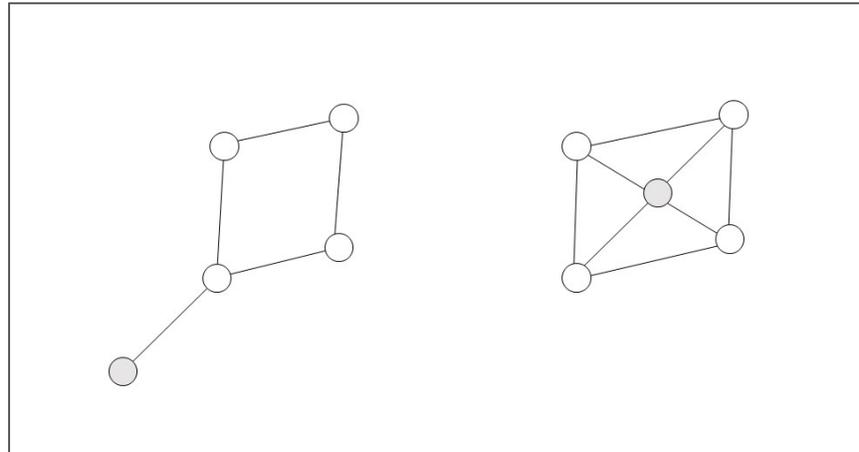


Figure 1: The singly-connected versus multi-connected network

Relationships can even go beyond those among humans. We see countless instances of people developing empathy for nonhuman others (especially when the other is morphologically similar to humans, as with other mammals). For many of the examples of ecological commons that we will be taking up, the ability of relational patterns to extend to nonhumans is important.

The modeling of collective action and the commons, from Mancur Olson's to Elinor Ostrom's formulations, has been dominated by the conventional model of individual rationality. Mathematically, this translates to a decision-maker optimizing a utility function with a single variable in its argument, which is the player's own payoff. Game theory involves the construction of hypothetical models to predict human decision-making and behavior. In a game with multiple individually rational decision-makers, John Nash showed that predictable solutions (or equilibria) can be expected for such situations (Nash, 1951). Now, what happens when we model games with other-regarding players, whose decision functions depend on not just the player's own payoff but the others' as well? What outcomes might we find when we model commons situations with a set of players playing a relational logic? Would we find predictable equilibria, as with individually rational players? As we will discuss, it would be interesting to model situations with this slightly more complex notion of human decision-making and to see what different outcomes and patterns of play emerge. Most importantly, we have to try to analyze this type of decision-making, since real people are complex, multiply-motivated decision-makers who care for many things beyond individual payoff. We will take up, in the next chapter, a highly simplified mathematical model

of other-regard (as in Lejano and Ingram, 2012), and then in succeeding chapters, turn to richer, qualitative descriptions of relationality.⁸

To be clear, the purpose of the book is not to rehash long-standing critiques of the model of individual rationality or *homo economicus* (e.g., Sen, 1977), but to analyze, for its own worth, the other-regarding side of humanity and explore its implications for collective action. In other words, it is *homo curae* (the caring person), that we turn our attention to. Another idea behind the book is the desire to provide other ways of analyzing collective action, which is dominated by a focus on rational (in the smaller sense of the word) systems of (often formalized but sometimes informal) rules, roles, and organization. We ask: what if the functioning of the system is not to be explained by these elements but, rather, subsists in the relationships, and their functioning, that interconnect the network of policy actors (Lejano, Araral, and Araral, 2014)?

Assumptions about how people make decisions and behave on a micro level lead to institutional designs on a larger scale. The literature has depicted the institutional options for solving collective action problems in a tripartite way. Following Mancur Olson, one can, first, depend on the state to set rules that sanction uncooperative behavior and enforce them, or, secondly, one can look to the market to send economic signals that do the same. Ostrom's third way runs through the community, which acts to set rules, agreed upon by community members, and sanction those who do not play by the rules. This paints the picture with a broad brush --in reality, there are a multitude of competing (sometimes, hybrid) designs. In this book, we examine another way that collective action problems might be solved, which is yet different from the three mentioned mechanisms. We look at the possibility of relationality occurring even outside the bounds of a sanctioning community, and we realize that relational logic works in many ways. In many instances, relationships work in ways that seem to be outside what one can call rule-systems and community-centered sanctioning of these rules. The ethic of care, as Carol Gilligan described it (Gilligan, 1993), does not work so much as a deontological rule system --rather, it is an active responsiveness to the other. Yes, people often do good out of adherence to a moral principle, but Gilligan is saying that, oftentimes, people do good not so much in response to an abstract rule but because they have a relationship with an other. One route to morality is as valid and important as the other.

⁸ Though it lies outside the scope of this book, there is the challenge of analyzing the nature and action of relationships, which brings us to the problem of defining "relationship". There is some preliminary work in this area --e.g., see Lejano (2008) and Lejano and Kan (2022a) where a relationship is modeled as the constitution of one's identity away from the autonomous ego to the three dimensions of: self, self vis-a-vis other, and self-and-other. This establishes the tight connection between relationship and identity. The relational condition is not just a positional concept because it also considers one's joint identity with the other. Moreover, relationship is not just cognitive, and it includes material interactions between self and other, as well. We are reminded that relationships inhere among materially situated selves (Whatmore, 1997).

The differences between the rule-based and the relational are greater in some contexts --for example, Stone recounts how the transition of elder care from something provided by the family to a professional service involved substituting a system of (countable) rules and routines for the (innumerable) things and attitudes and sentiments involved in caring for a loved one (Stone, 2000). In these instances, it is easy to see how rule systems fail to encompass what it means to care for another. Bourdieu gives a wonderful example of gift-giving among the Kabyle, where trying to capture the institution in a system of rules would defeat the practice of gift-giving, which involves a dynamic relating of one to another in a way not capturable by a rule. (Bourdieu, 1977).

To be sure, Ostrom et al. saw beyond communal institutions as simple rule-systems. In her later work, Ostrom began studying how other mechanisms maintained group cooperation, apart from the original model of community-based rules and sanctioning (as simulated by the repeated game). Ostrom and colleagues observed that individually rational behavior emerges from competitive (market) situations that encourage this but found, in other contexts, more complex modes of decision-making: "Actors have preferences related to achieving net benefits for self, but these are combined in many situations with other-regarding preferences and norms about appropriate actions and outcomes that affect their decisions." (Poteete, Janssen, and Ostrom, 2010, pg. 223). In a way, the present book is a continuation of their inquiry into the complex ways people align themselves with the greater good, exploring the phenomenon of relationality, into which Ostrom et al. had begun to inquire.

Should we think of the relational pathway as a "fourth" institutional model? Later in the book, we will examine how relationality can orient members, to collective action, of a social network that may bear no semblance to the communities that Ostrom studied. Some networks are simply agglomerations of individually linked actors and may not have any filial or spatial propinquities that characterize communities --in these cases, we will consider how relationality (through empathy) can coordinate actions throughout such networks. However, as we will discuss, in many situations, relationality is less of an alternative model and more of a parallel process that occurs within conventional institutions. Relationality can occur inside state, market, and communitarian modes of action. Granovetter's example of breadmaking argues that a market is not a market --that is, each local bread industry differs from the other because each is embedded in a different web of relationships (Granovetter, 1985). Others have described state-centered systems, which are supposed to be impersonal, to often be embedded in relationships as well --for example, what Asian scholars sometimes refer to as *guanxi* (Xin and Pearce, 1986).

How are we supposed to think about a community that functions more coherently than another due to its greater store of social capital? What is social capital without people learning to care about the other and acting on this? One can think of social organization, within the community, as

arising from individually rational logic as one finds in a repeated game. This, however, is like Durkheim trying to separate organic from mechanical solidarity --in real communities, relationality and individual rationality are co-occurrent logics. One can hardly form associations (e.g., joining a community board) without gaining some empathy for, or understanding the perspective of, the other. In some instances, other-regard may be supported by conditions that combine opportunities for altruism with self-interested behavior (e.g., Mansbridge, 1990).

As we reflect on the power of connectedness, we cannot help but think, too, about the disempowerment that comes from disconnectedness. We find situations where people are most vulnerable who are disconnected from the rest of society. The disaster literature is replete with such stories, such as frail elderly residents living in isolation in the Red Hook apartments in Brooklyn, New York, who went days without help in the aftermath of Superstorm Sandy (Hernandez et al., 2017). During Typhoon Haiyan, many of the victims were informal settlers in the City of Tacloban, Philippines, who lacked institutional ties to government and businesses (Walch, 2018).

The Other Side of the Coin: Vulnerability and Disconnectedness

Dilruba Haider, UN Women's Programme Specialist (DRR, CC, HA) for Bangladesh, addresses a room of government officials and NGOs working on disaster risk reduction in Dhaka. She describes how disasters very often take a greater toll on women. (As an aside, Cyclone Gorky, in 1991, is said to have wrought more fatalities in Bangladesh among women than men, at a ratio of 14 to 1.)* She hails the recent move toward engagement of community. "This is a good idea, to bring knowledge about risks like tropical cyclones to the marketplace, to the mosque, to the schools." However, she says it is not enough. "But what about many women in Bangladesh, when the women are not to be found in the market, or the mosque, or the schools? How do we reach them, when many do not or cannot even go outside their home? If we want a program that will make change, we have to reach these women who are traditionally excluded from these places and these programs."

*Bern et al., (1993); Lindeboom et al. (2012).

Climate inaction, in the U.S., was enabled in part by disconnectedness, in the form of climate skeptical communities who were shut off from other perspectives. The alienation of one group from another was ideological, stemming from a climate-skeptical narrative that was closed to other voices and experiences (Lejano and Nero, 2020). The disconnectedness was also regional and cultural, in part, as rural white Americans were markedly opposed to climate action as compared to the urban population (McCright and Dunlap, 2011). Later in the book, we will explore the link between disconnectedness and the more general theme of environmental justice. As we will discuss, environmental injustice can be seen to be

rooted in the basic separation from self and other. Relationality can be thought of as two sides of a coin, with connectedness on one side and disconnectedness on the other.

Sometimes, disconnectedness is part of the design of a program. The use of the market as an institutional remedy for collective action problems can alienate people from the other. In the classic market, personal relationships between actors are replaced by impersonal transactions between buyers and sellers through some kind of intermediary exchange. In many instances, a buyer responds to a unitary element of information, which is the price signal, and may not even encounter the person on the other end. Compare this to the complex flesh-and-blood encounter between people in social relationships. Perhaps some of this longing for connectedness lies behind the recent trend towards more personalized encounters in farmers markets, as opposed to the impersonal transactions found in a supermarket (Garner, 2017). We will see examples of retailers who aim to reconnect buyer and producer, such as fair trade coffee vendors who try to establish some connection between the consumers and the people who grow the coffee.

The book continues a line of questioning that asks: if other-regard, empathy, and altruism are undeniable realities of the human condition, then why do we model human behavior and design institutions as if they were not? In an early investigation of this, a book entitled *Beyond Self-Interest*, Mansbridge suggests "As empirical social science stops ignoring this reality and starts exploring duty and love with the same intensity it has recently given self-interest, the resulting analyses are likely to become more useful to those engaged in collective action" (Mansbridge, 1991, xiii).

The relational view is about the power of connectedness. To be sure, we don't at all presume that relationships are primarily beneficial. Some relationships, such as those wrought with power differentials, can be unjust for some parties. Relationships can be antagonistic, such as those between people who stay divided in ideologically separated camps. But in these situations, we may find that the ties are not of empathy and that the other might be seen not as a co-equal being but a stick figure, a category, an archetype, or a caricature. Perhaps the other never becomes another being that one can identify with, as people engage in "affective polarization" where stereotypes stand in for the other (Druckman et al., 2022).

Not all interactions foster other-regard. The encounter of a person prone to xenophobia with the foreign other can simply be one of fear and resentment. The hurling of epithets between liberals and conservatives can be like enemies lobbing grenades at each other from their respective trenches. Not all encounters lead to empathy, which leads us to wonder, which interactions do and why do they?

Thinking most broadly, perhaps getting deeper into the prevalence and potential of other-regard can counteract some of the sweeping narcissism

that we have seen in our present age- There is an important caveat, however. We formulate a relational model in response to the conventional one that assumes people are simply individually rational. Just as the conventional models leave out too much, we present a relational model without pretending that, at the same time as people think and act in other-regarding ways, they are never *not* individually rational. We note this now because, in succeeding chapters, we will talk about other-regard sometimes in isolation from other motivations that lie within us. This is almost unavoidable when crafting and distilling the essence of a new model. Towards the end of the book, we get back to the reality of how people are, which is utterly complex.⁹

Previewing the rest of the book, readers should feel free to not read the chapters sequentially and are encouraged to jump to sections that engage them directly. For example, a reader may not be so interested in the formal game-theoretic model, discussed in Chapter 2, or the psychological and neurological underpinnings, presented in Chapter 3, as in the role of relationality in promoting pro-social and pro-environmental behavior, as discussed in Chapters 4 and 5. A reader most interested in institutional implications can turn first to Chapter 6. For those with a keen interest in how relationality figures into urgent issues that confront the world at this moment (i.e., the pandemic, racial and social injustice, and climate change), they could turn to Chapter 7.

The succeeding chapters will present the relational model in clearer light, illustrate its use with real-world examples, and work out its potential for institutional reform. The book is meant to be an updating of Ostrom's 1990 classic and, fittingly, will follow its lead at some points. Ostrom's book starts out mathematically, describing the game-theoretic foundations of collective action problems and her nuanced understanding of them. Chapter 2 will establish some of the same foundations, mainly to show how the present concept differs from the established. Games are an effective pedagogical tool for highlighting conceptual points. The point of this book is this: all the outcomes predicted by these toy games, including Ostrom's, turn out differently when we make one change in the formulation, which is to assume decision-makers who base their decisions not just on their own payoffs, but the payoff to the other as well. The chapter will work out how connectivity works for the greater good. Interestingly, for some collective action problems, a decision-maker need not be connected to all those who would be affected by her decision, but it suffices to make a connection with one or two. This is, in part, network logic (since, for most networks of any real consequence, each member is connected to a few, but not all, of the members). The chapter points to the potential of this mathematical model, suggesting what we might obtain once we start modeling economies of other-regarding (instead of simply individually rational) players. Chapter 2 includes some game theory, as did Ostrom's classic book. As with Ostrom's book, the reader who is not

⁹ One relevant notion is from Berkes, who points out that it is not enough to focus on the cognitive but the knowledge-practice-belief complex (Berkes, 2018).

particularly interested in game-theoretic illustrations is free to skip the chapter and move on to succeeding (non-mathematical) chapters.

The model of the other-regarding person is backed by a considerable store of evidence in different fields of study, which we discuss in Chapter 3. From Husserl to Buber to Levinas, phenomenologists problematized the relationship between self and other and sought to characterize this as a basic (ontological) human condition. Gilligan states it in a fundamental way as an ethic of care. We discuss the psychology literature on altruism, especially the role of empathy in such other-regarding behavior. Within this literature, we find evidence of the role of connectedness in engendering empathy. There are other motivational routes to altruistic behavior (such as reputational effects), and the literature teases out these fine differences. These patterns have evolutionary roots that can be traced to the bond between parent and child, according to some scholars. These insights are backed by a growing body of evidence in neurobiology, which suggests that a stimulus like viewing pictures of a person experiencing pain can trigger an empathic response. These responses are linked to cooperative behavior in experimental games, which simulate collective action in real situations. One important idea emerging from this chapter is that, if theorists of care are right that it is a basic human condition, then relationality and empathy are not simply a "feel-good thing" that one would want to see in the world but cannot rely on. Relationality is more than this, since it is constitutive of who we are.

In Chapter 4, we examine evidence for the relational thesis in real-world examples of pro-social and pro-environmental behavior. Charity foundations and aid organizations have learned that providing some kind of connection between potential donor and recipient, whether it consists of pictures or bios or direct connection, increases people's willingness to help. The role of empathy in gift giving has been explored in some of this literature. We see supporting evidence in pro-social consumerism, such as people's willingness to pay extra for fair trade coffee. Accordingly, fair trade organizations have begun making the farmers and other beneficiaries at the supply end more tangible to consumers.

Chapter 5 takes up examples of the commons. Ostrom's theory of common-pool resources has been influential in many areas such as water resource management and habitat conservation. Some examples in these areas, however, suggest the commons are being sustained without the system of rules-in-place and community-based feedback mechanisms suggested by Ostrom's theory. Several real-world cases are described. In one example from habitat conservation, actual practices deviated, in nonsimplistic ways, from formal rules in a way that cohered to the relationships the conservationists had with the community. In case studies on water resource management, involving co-determination of use policies, we will see how the participatory forums worked to allow hitherto disconnected players to develop an understanding of the perspectives, feelings, hopes, and aspirations of the other. Their design is related to principles emerging from the relational theory, such as the need to increase connectedness, to build recognition of the other, and to increase

transparency of the system. This leads to the next chapter, which focuses on institutional design.

Focusing on relationality and the consequences of connectedness leads to principles for designing institutions, which is taken up in Chapter 6. The idea is that fostering connections between individuals and groups increases mutual identification, which triggers a sense of care. Information-based strategies for environmental (and other) regulation can be guided by these principles, including that of building into the institution connections with those being affected or helped by the action. These connectivities can take advantage of new media that allow direct access to the images, voice, and face-to-face contact from the field. The idea of fair-trade coffee outlets giving buyers access (whether direct or indirect) to the families that grow the coffee is an example of this. Many of the design principles have to do with building social networks and allowing deeper and sustained relationships across boundaries, bringing together those who normally would be disconnected. The principles also embody many tenets of the ethical theory of care, such as ensuring that the most vulnerable are connected and cared for, that the voiceless are heard, and that norms for the equitable treatment of all are emphasized. In the design of governance arrangements for the commons, relational principles complement those for common-pool resources and are not an alternative to them. In form, relational strategies stand in contrast to Ostrom's --e.g., while common-pool resource theory emphasizes the need to establish formal boundaries, the relational theory aims to bridge these boundaries and increase connectedness. While Ostrom's design principles emphasize systems of rules, relationality emphasizes connectedness and caring. As the pendulum of institutional theory swings from state to market to community (and all regions in between), we consider whether relationality in social networks might be considered a "fourth way" or, rather, as something immanent in all of these models.

Chapter 7, the concluding chapter, takes a broader look at the human condition and reflects on the relevance of the relational perspective. We revisit the central ideas of the book and apply them to a specific example, that of climate change mitigation. We then look at the intersection of relationality with other important themes, including environmental justice, sustainability, and resilience. Relational ways of coping with global crises require that people discover, re-discover, and nurture the bonds that help one connect with the other. On the contrary, disconnectedness and treatment of persons as impersonal others results in a spectrum of conditions, from everyday microaggressions to systematic injustice.

Directions for future work are discussed in this concluding chapter. This includes the need to work out how the relational mechanism interacts with other behavioral mechanisms identified by Ostrom, Olson, and others. When does the relational mechanism take over and dominate that of individual rationality, and vice-versa? How do we craft institutions that take advantage of all three models? There is an open question that pertains to institutional models. While Olson's work suggested a choice between state-centered and market-centered institutional models, a multitude of

(hybrid) designs work by increasing interaction between multiple actors in network governance arrangements (e.g., Mulgan, 2012; Lejano, 2020). The chapter sketches some research ideas to be explored in the coming years, such as how to create institutions that increase connectedness between people who are not ordinarily part of the same social network? How can digital media be used to connect hitherto disconnected groups, perhaps even making the specter of melting glaciers salient to those in the cosmopolitan city? What are the implications for environmental communication and education? How might we go about reconnecting people who have taken up polarized ideological positions? And, lastly, what are some directions for scholars of collective action?

This book constitutes a small but significant step toward a concerted research program revolving around relationality. Its main theme is about restoring connections between the hitherto disconnected, allowing the family of living beings to learn to again care for the other.

The book should be seen not so much as a rejoinder to Ostrom's classic text but an addendum. The idea of relationality lies embedded in the work of Ostrom and her colleagues, but it has not been examined in an extensive way. Relationality needs to be considered as a crucial component of the concerted effort at solving problems of the commons. In fact, some dilemmas may not be amenable to other institutional remedies and may require, whatever the solution is, the fostering of empathy for the other. Why and how else would the busy urbanite do anything for stranded polar bears or unfairly paid coffee plantation workers? To regulate or price in solutions to these kinds of issues may be too daunting a task or might spur protest among those who already feel put upon by the market and the state (and elites). Connecting each of us to one another builds on a natural human condition and creates a motivational pathway that needs to be fully explored. This is an important point. As we will develop in this book, relationality is not just about solving problems --even more than this, it is about being our most authentic selves.

Chapter 2

Constructing a Relational Theory of Collective Action

In *Governing the Commons*, Elinor Ostrom began by recalling the classic prisoner's dilemma of early game theory (first discussed in Flood et al., 1950). Scholars often use this kind of pedagogic strategy (of constructing simplified games) to clarify the concept being illustrated. To be sure, these 'toy games' do not come close to representing the complexities of real-world situations and the decision-making of real people, but they highlight key concepts in effective and sensible ways. We will do the same in this chapter, mostly to frame the relationality thesis in a clear and simple way, without suggesting that the model presented herein can represent the phenomena of connectedness in its complexity. A reader not interested in game theory can skip this mathematical treatment and move onto the next and subsequent chapters, which looks at other evidence of relationality, both in the lab and the real world.

We can begin, as Ostrom did, by depicting the game with the example of herders raising cows on a common pasture. The pasture is owned by no one and freely accessible to all, hence the term, the commons. In the terms used in political economy, free access means that the resource is non-excludable. However, use of the pasture by one herder interferes with its use by another herder. Their cows can bump into each other, compete for grass and shade, and create other externalities, so the resource is what is known as a rival good. The example will be well known to many readers, so we will not belabor all the details. The point is that there is a sustainable number of cows raised on the pasture which ensures a maximum return to all the herders. For simplicity's sake, assume everything is symmetrical across the herders, so the ideal situation is that each herder raises the same "responsible" number of cows. The problem is that, acting alone, each herder will raise more than the responsible number of cows, leading to the ruin of the pasture, with the result that everybody loses and earns less revenue than they could have had. The tragedy is that they all know that raising too many cows would result in such ruin. Yet, the inexorable logic of self-interest leads each to act irresponsibly. Hardin would refer to this dilemma as the tragedy of the commons (Hardin, 1968).

Why does the informed but self-interest-seeking herder act irresponsibly, even while fully knowing about the tragedy of the commons game? The logic goes something like this: each herder considers cooperating but realizes: "If the other(s) act uncooperatively, I will be even worse off and the only one ruined --ergo, I would minimize my losses if I acted uncooperatively, too." As the tragic story goes, everyone reasons the same way, acts noncooperatively, and the pasture is ruined. A general term for this type of dilemma is the collective action problem, due to Mancur Olson (1965). How is the dilemma solved? In either of two ways, Olson reasoned. Either the pasture is privatized and fenced off, with each herder getting their respective plots, or the state steps in and regulates how many cows each herder can put out to pasture. Either strategy, privatization or

regulation, will incentivize (or coerce) each herder to limit their cows to the sustainable number.

Ostrom's keen insight was to claim that there is a third way to solve the dilemma: not market, not government, but community (Ostrom, 1987). Community can exert social pressure on uncooperative individuals in order to nudge them toward better behavior. The key, Ostrom continued, is to rethink the commons game as not something that is played once but played repeatedly, such that cooperative behavior, or sanctions against uncooperative behavior, can evolve over time. The game-theoretic basis for this lies in the so-called Folk theorem, which states that cooperative results in the prisoner's dilemma (and other similar) games can be achieved in a repeated game (not one-shot) game situation where a strategy for incentives and sanctions can be applied by players on the uncooperative one¹⁰. One such strategy is known as tit-for-tat where, in a two-player situation, player A plays uncooperatively in the second round if player B is uncooperative in the first round, and plays cooperatively if the other cooperated previously (Rapoport, 1974). The logic is that each player realizes: if I don't cooperate now, the other(s) will make me pay for this in the future, so best I cooperate. In a one-shot game, a player can just choose not to cooperate and walk away, not having to interact with the other players again. However, a repeated game requires longer-term thinking.

For this chapter's purposes, the key idea is that Ostrom's community-based logic, as originally stated, is still consistent with the notion of individual rationality, which is that of the decision-maker maximizing her/his own payoff. Note that, as we will discuss in succeeding chapters, Ostrom's own later work can be understood as going beyond this utilitarian model, as well. Nonetheless, the basic logic of the model she presented derived from the logic of the repeated game.

Where this book begins is where the repeated game formulation leaves off. What if, we ask, community members not only interact repeatedly (thus, allowing monitoring and sanction) but, in fact, also develop connections (particularly personal connections) among themselves? What if such connectedness fosters other-regard and, in fact, empathy for the other? The key difference that we will discuss in this chapter is that we not only conceptualize a player's decision as that which optimizes her or his own payoff but as something that includes consideration for the other's payoff (or payoffs) as well. To show how this matters, let us represent the situation in mathematical form. We introduce the following variables.

Let us imagine a pasture with three herders or players (i, j, and k).

x_i = the number of cows that player i decides to raise,
 p_i = the payoff from the game to player i,
 $\sum p$ = sum of players' payoffs, $p_i + p_j + p_k$,

¹⁰ Proof of the Folk Theorem is due to Aumann and Shapley (1976), as well as Rubinstein (1979).

$u_i(p_i, p_j, p_k) =$ utility to player i from the combination of payoffs (p_i, p_j, p_k) .

A player's payoff is a function of the number of cows she decides to raise. Just for example's sake, let us use a well-behaved (concave) function like the following and assume this holds for every player:

$$p_i = 60x_i - x_i^2 - [x_j^2 + x_k^2]$$

where the expression in the brackets is the externality or costs imposed upon player i by the other's activity.

Let us start with the conventional assumption that players are individual rational. As the logic of the tragedy of the commons goes, when player i maximizes his individual return, his calculation proceeds are follows:

$$\begin{aligned} \max p_i \text{ which means } \partial p_i / \partial x_i &= 60x_i - x_i^2 = 0 \\ \text{which leads to a solution of } x_i &= 30 \text{ (meaning, player } i \text{ raises 30 cows)} \end{aligned}$$

However, we quickly realize that were each player to use the same reasoning, the pasture would go to ruin and everybody would wind up at a loss. Since we assumed the game was symmetrical, we have everybody raising 30 cows each, resulting in the following payoff to each person.

$$\begin{aligned} \text{Uncooperative strategy } p &= 60(30) - 30^2 - (30^2 + 30^2) = -900 \\ \text{(i.e., a negative result for everyone).} \end{aligned}$$

This is a far cry from what they could earn were each player to raise a more sustainable number of cows, which we determine from the calculation shown below.

$$\sum p = p_i + p_j + p_k = 180x - 9x^2$$

Differentiating both sides, we have $\partial \sum p / \partial x = 180 - 18x$ which leads to an ideal solution of $x = 10$ (i.e., ten cows each).

We see the merit of the cooperative approach by calculating the resulting payoff to each player.

$$\begin{aligned} \text{Cooperative strategy } p &= 60(10) - 3(10^2) = 300 \text{ (i.e., a positive result} \\ &\text{for everyone).} \end{aligned}$$

As the narrative goes, the tragedy of the commons is that each player could wind up so much better off, earning 300, by cooperating, but they all end up not cooperating (by putting out too many cows) and losing 900 as a result.

Why does each player decide not to cooperate? Because they realize that, if they do cooperate and others don't, they lose even more, winding up with a net return of -1020 (the readers can verify this calculation on their own).

Here we introduce relationality. What if, somehow, the players were each connected and felt an empathy for the other? Mathematically, their decision functions would not simply be to maximize their individual payoffs but something that involves consideration of the other's payoff, as well. Many possible functions found in the literature can account for other-regard. For this chapter, we will assume a simple one, which is the maximin function, shown below. This function simply has a player comparing her payoff with the other's and making a decision that maximizes the payoff of whoever has the lowest return. In philosophical ethics, this might correspond to Rawl's so-called difference principle which prescribes that decision which results in the greatest good for the least advantaged (Rawls, 1974).

$$\text{maximin rule: } u_i(p_i, p_j, p_k) = \max [\min (p_i, p_j, p_k)]$$

and, since we assumed the game is symmetrical, our solution simply equates all three:

$$p_i = p_j = p_k$$

and the decision-maker realizes that the maximum result achieved that also equates all player's payoffs is simply the ideal cooperative result (i.e., 10 cows each).

We can diagram connectedness as a social network (as shown in Figure 2) where each player is connected to the other.

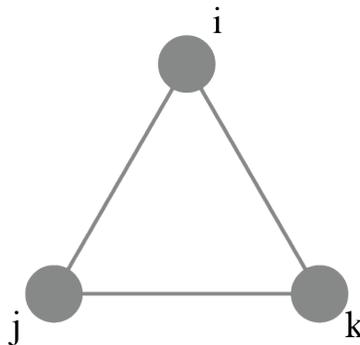


Figure 2: Example of a Social Network

If the reader is all right with this logic thus far, we will press on. Those who want to read up on the evidentiary basis for other-regard and decision-making that exhibits empathy and egalitarianism might want to take a quick look at the topics covered in the succeeding chapter. There is ample evidence, from fields such as psychology and neurobiology, of other-regard as an active mode of reasoning (and being).

At this point, we take up the "small n" problem. That is, if indeed connectedness can foster other-regard, how can this be achieved in a situation with many actors who cannot each be personally connected with every other actor in the network? This is especially true if one insists on direct interpersonal contact. We can respond in at least three ways. The first is to point out that, depending on the structure of the game and the

decision functions, sometimes, merely being cognizant of the welfare of just one other person (or a few other persons) can prime a person to act for the whole. Take the situation depicted above and suppose that two persons were connected to only one other centrally-located person in the three-person group (depicted as shown in Figure 3).

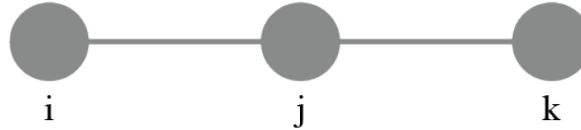


Figure 3: "Linear" Social Network Diagram

In the network depicted in Figure 3., consider the decision process of player i who, being connected only to player j, perhaps does not know about (or disregards) player k. His maximin function is as follows (player i assumes j is cooperative and raises 10 cows).

$$\max [\min(p_i, p_j)] = \max [\min (60x_i - x_i^2 - 100, 600 - 100 - x_i^2)]$$

and, equating the two expressions/payoffs, we get the same cooperative result as before, where $x_i = 10$. So, in this particular example, we see that merely being cognizant of one other player's welfare, a player is moved to act for the good of the whole network. Note that we would not always get such a perfect result. If readers wish to try, they can tweak the decision functions and see that, depending on what specific parameters they choose, they might obtain results in between the cooperative and uncooperative solutions.

The second way we might address the small n issue is to point out, as will be discussed in the next chapter, that relationality can act in much more varied and complex ways than we cover in our simple mathematical example above. It is possible that one's contact with another's plight moves the person to empathize with an entire group of vulnerable individuals and act accordingly. Or, perhaps encountering the other triggers a commitment toward a higher moral plane, which results in altruistic actions that go beyond the payoff-driven logic we discussed above. Kahneman et al. (1999) put it in a slightly different way, which is that, often, a person's attitudes toward a large group are not influenced much by group size because they are determined by one's attitudes toward a representative member of the group.

The third way to address the issue is to consider that there will undoubtedly be situations where the small n problem is a serious obstacle and that other solutions are needed. Perhaps in some situations, connectedness works well for tens or hundreds, but not thousands, of people. Or, as we point out in chapter 6 on institutions, in reality, different routes toward cooperative behavior are not mutually exclusive, and that measures aimed at connecting people can be taken at the same time as other strategies (e.g., market incentives, along with relationship-building). As an example of the simultaneity of different mechanisms, Mansbridge points out how an Ostrom-like set of community-imposed sanctions against defection can

create an ecological niche, wherein altruistic agents are protected against being punished for their cooperative inclinations and, so, are free to act upon their tendencies toward other-regard (Mansbridge, 1990).

Formal Theory

In decision-theoretic terms, relationality is generally stated as the condition wherein one's decision function includes the payoffs or utilities of the other(s). This allows any number of different modes of decision-making, ranging in degrees from egoistic to altruistic.

A more formal treatment of the above model is found in the Addendum at the end of this chapter. This provides the decision-theorist or political economist with a more explicitly mathematical treatment of the model, which revolves around the existence of Nash equilibria in games with vector payoffs. The Addendum discusses theoretical implications (which are not the main focus of this book), namely, how would acknowledging other-regard in individual decision-making affect the way economic situations are modelled, and what differences in expected outcomes might be expected? This slightly more complex formulation of the decision-maker brings the models a little closer to the real world.

Experimental Games

Just as, for the most part, economists and other researchers had assumed, out of faith, that human behavior would be adequately modelled with the decision-theoretic formulation of the individually rational person, we could just as easily assume that the model of the other-regarding individual might be something self-evident. However, an even better route is to start testing some of these assumptions. Over the last thirty years, researchers have begun to test some of the propositions of these game-theoretic models in the lab.

Researchers began simulating these decision situations, very often with college students. One renowned experiment, known as the ultimatum game, goes as follows. A player (A) is asked to propose a split of some sum of money (e.g., \$100) between self and another person. Most often, the identity of the other person is unknown, and the two participants never get to see or hear each other. Player B is then given A's proposed split (e.g., \$60 to self, and \$40 to B), and B decides to accept or reject it. If B accepts, then they each get the stipulated split of the money, and if B rejects, they both get zero. Assuming that A is an individually rational decision-maker (meaning, a person who tries to maximize one's own payoff) and, knowing that B is likewise the same, what would A offer B? The reader can think through this thought experiment and figure out some answer (which is given in the footnote below).¹¹

¹¹ The conventional solution (or, Nash equilibrium) to the ultimatum game is that A offers as small an amount of money as possible to B (sometimes labeled epsilon, ϵ , representing some amount close to zero, like one cent), which B then accepts. (Question for students: Why would B accept some amount very close to

An even simpler version of this, called the dictator game, only involves the first stage, where A proposes some split of the money. B does not even get a chance to consider the offer and is relegated to simply accepting what A decides. What would you predict the outcome of this game to be, again assuming that both players are utility maximizers (also in the footnote below)?

The interesting thing about these games is that, the more researchers tried them out, the more they noticed that, very often, results departed from the predicted outcomes of these games. Participants would offer the other amounts much larger than that predicted and, often, would even offer a 50-50 split. (A few would even give away the entire 100). Most generally, offers would range between close to zero and a 50-50 split. These deviant outcomes were obtained so often that some researchers called them anomalies and began to go about trying to explain them (e.g., Camerer and Thaler, 1995).

There are many possible reasons that outcomes might deviate from the self-utility maximizing result. Perhaps the offering player was wary of effects on reputation, creating some negative image of him or her self (e.g., Mifune et al., 2010) or that the researcher carrying out the procedure with the participants might form a negative moral judgement (Levitt and List, 2007). Yet, as much as researchers tried to correct for these conditions, the anomalous outcomes persisted.

To many of these investigators, the (tentative) conclusion was that humans exhibit some type(s) of other-regarding criteria in their decision-making. This is not to say that these explanations were uniform, as different players exhibit different norms and other-regarding motivations. Some proposed that people were driven by considerations of equity, which can show up as a desire to minimize the differences in utility received by different people --essentially wanting to avoid unjust rewards, envy, and other comparative considerations (e.g., Rabin, 1993, Bolton and Ockenfels, 2000, and Fehr and Schmidt, 2006). Some attributed generosity in these games to the "warm-glow" of giving --i.e., people feel good about donating goods to others (e.g., Andreoni, 1990). Some propose that, even in situations where repeated play is not allowed, players innately maintain a sense of reciprocity (e.g., Gouldner, 1960). Others attributed the anomaly to social learning, specifically, the diffusion of social norms about giving (e.g., Grossman and Eckel, 2015). We should be open to all these different motivations and consider these as possible mechanisms for generosity (and they each probably do occur in the real world). Not all of them equate with the particular notion of other-regard that we study in this book, which is how people might develop empathy from connectedness, but all of them surely overlap in some fashion.

zero?) As for the dictator game, the solution is that A simply keeps all the money.

This experimental work led to many interesting conjectures, backed up with some evidence in the lab and, to some extent, the field. The degree of generosity, as might be expected, varies greatly depending on the circumstances of the experiment and the identities, social positions, and backgrounds of the participants. Gender may be a relevant variable, as some research has suggested that females tend toward greater generosity or other-regard than males (e.g., Andreoni and Vesterlund, 1997; Eckel and Grossman, 1998) while others found no significant difference (e.g., Bolton and Katok, 1995). Political ideology can be another determinant (e.g., Dawes, Loewen, and Fowler, 2011). A group of researchers, employing the ultimatum and dictator games in the field, obtained findings suggesting that different cultures, across regions and nations, had varying tendencies toward other-regard (e.g., Henrich et al. 2004). Another group conducted cross-country comparisons of outcomes in the dictator game and obtained findings suggesting that people in more developed economies tend to make lower offers in the game (Cochard et al., 2021). But, invariably, all find evidence of some departure from strict individual rationality.

Some researchers found that generosity seems to increase with decreasing "social distance", where social distance is gauged by degree of social or physical propinquity. One explanation for this effect is that perhaps lesser social distance is associated with a sense of heightened reciprocity (e.g., Hoffman et al., 1996). Other researchers attribute the effect to a sense of connectedness, echoing propositions forwarded in this book. Bohnet and Frey designed a test that compared reciprocity and connectedness as possible explanations and demonstrated that connectedness had the greater effect, commenting that "When social distance decreases, the "other" is no longer some unknown individual from some anonymous crowd but becomes an "identifiable victim" " (Bohnet and Frey, 1999, 335).

In the rest of this section, we illustrate how we can use these experimental games to test various hypotheses regarding connectedness and giving. For example, to what extent is identifiability, mentioned in the previous paragraph, a trigger for other-regarding behavior? In a modified dictator game, the author asked players to divide up an amount (Pesos 400) between self and other. Two groups were tested, each with 25 players: a control group where the recipient of the donation was completely anonymous, and a second group where the recipient was named (but not personally known to the decision-maker). The results, summarized in Table 2.1, show that players in the second group (with the identifiable recipient) tended to give significantly more (an average of about 48 units more) than the control group, lending credence to the notion that connectedness (at least the form tested herein) can lead to other-regard and altruism. In other words, simply knowing that the "other" is a specific individual (as opposed to a nameless anonymity) can trigger other-regard. This finding supports the literature on the increased importance that people give to the "identifiable victim" (e.g., Schelling, 1968).

Table 2.1: Wilconxon (paired sample) signed-rank test results

Amount Given to Anonymous Person	Amount Given to Identifiable Person	Z	p
146.0	193.9	-2.61	0.009 *

*significant to greater than 95% level of confidence, paired sample n=25 (source: Lejano, 2023)

In another variation of this game, the decision-maker was asked to first split the 400 between self and a "green climate fund". There were no details given for the fund, apart from the name and information that it was a fund to support carbon mitigation projects around the world. The players were then asked to play the game a second time, with the difference that this time around, three specific projects that could be supported within the green climate fund. The three projects were described, with pictures attached: (a) a solar energy farm (the picture showing a hand pointing to a solar device), (b) a wind turbine project (the picture showing a man holding a small portable turbine), and (c) a reforestation project (the picture showing a group of young children playing around the trees). The experiment tests whether giving to the fund increases when, first, the recipient projects are more tangible and visualizable and, secondly, whether donations increase with the level of human presence in the pictures (with the presence of humans increasing from a to b to c). The results are shown in Table 2.2.

Table 2.2: Results of GCF donation game (n=35)

	Amounts donated to specific GCF projects		
Increase in amount donated to GCF	Solar Energy	Wind Turbine	Reforestation
267.3*	87.4	85.5	129.4
	302.3*		

*Difference between means significant to greater than 95% confidence (paired sample, n=35)

In this experiment, identifiability is attempted not by giving names but showing faces. The first hypothesis seems to have been borne out, which is that people may tend to donate more (by 35 units) when the recipient project is identifiable. But, secondly, the results (which show people giving the most to the reforestation project by a significant margin) tend to support the idea that, perhaps, people feel a greater connection to the project that shows a group of children at the project site. There was no increase in giving to the turbine project compared to the solar project, even though the turbine graphic showed a picture with a man's face. Perhaps empathy increases not only with the greater number of people in the reforestation picture but even more so because the pictures showed children. The results are merely suggestive, since there are other possible ways to explain the results (e.g., perhaps the respondents just find reforestation more attractive than solar energy and wind energy projects).

Relational Goods and Relational Capital

The collective action problem is framed as a situation involving a public good (or public bad). A public good is, by definition, non-excludable, which means that, once provided, no one can be prevented from enjoying it. It is also non-rival, which means that one person's consumption of the good does not decrease another's consumption of it. For example, reducing one's use of energy creates a public good, in terms of climate change, since the reduction of carbon emissions benefits everyone (non-excludable) and one's benefit does not reduce another's (non-rival). Charitable giving for environmental causes can constitute a public good --e.g., donating to a climate action fund or donating to bank a hectare of tropical forest and prevent clear-cutting.

Recall, too, Ostrom's notion of a common-pool resource, which is non-excludable but rivalrous. When no boundaries or access rights are in place, then anyone can have access to the resource. One person's consumption of the resource reduces another's. Bananas on a tree growing wild on public land is an example of this. In this and subsequent chapters, we make the case that relationality is relevant to both the public good and common-pool resource situations.

In the light of the discussion above on relationality, the donation example suggests another kind of good. One can choose to donate to specific recipients. The donation to a specific individual would not constitute a non-excludable good because the good is allocable only to the chosen recipient. It is rival because the donated funds cannot be used by another recipient. But, in a very local sense, there is a degree of publicness to the transaction because, in relational terms, not just the recipient benefits, but the giver as well (as opposed to a purely private good which would benefit only the recipient). The good creates benefits for the giver when it is shared or given away. In another sense, this type of good is only activated when shared. We might refer to this as a *relational good*, which provides benefits only when shared between connected individuals. It might be thought of as a kind of public good in a local sense, where publicness only holds in that space encompassing the individuals involved. A relational

good might be defined as a good (or benefit) that is created among directly connected members of a social network whenever there is an exchange between them. Such exchange leads to an increase in utility experienced by the recipient of an altruistic act as well as the one performing it.

The sociological literature employs another concept of a kind of good that has proven to be useful in the literature on collective action, and this is the idea of social capital. Bourdieu (1977) describes social capital as a kind of investment or resource which involves an underlying reciprocity. If one person does a good for another, or gives another a certain amount of good, then it is like banking capital that, some day in the future, the recipient will pay back and do the original giver a favor in return. In some respects, a relational act, originating from a condition of altruism, is not like banking, since the act of giving immediately redounds back to the giver. There is no need for reciprocity at a future time. This suggests that we might think of this type of resource as a kind of *relational capital*, which benefits all those involved just by virtue of something being shared (like the covalent bond between two hydrogens). If there is anything banked, it could in some cases be the relationship itself, that might be triggered anytime in the future as a conduit for resource sharing.

A Note on Institutional Implications

Embedded in the simple games used in the political economy literature are some institutional issues that we will discuss in depth in chapters 5 and 6. But, even at this early point, we have some foreshadowing of discussions to come. Often unnoticed in many discussions of the prisoner's dilemma game is the presumption that its players are disconnected. They cannot communicate or forge any understanding between them. Our theory begins when we allow connection, even relationship, among these actors.

Also in chapters 5 and 6, we will have an opportunity to appreciate Ostrom's later work, which did acknowledge the complexity of human decision-making, including the power of relationship-building. Invariably, some of its early foundations in the logic of the repeated game have an influence on the elements of the institutional theory that she and colleagues built up. There is a strong focus on rules (including implicit or informal rules), monitoring, and mutual sanctioning (done through community mechanisms). As we will discuss, rules and sanctions are part of any institution, including the ones we will be highlighting, but empathy through connectedness can have a distinct or additional effect. As already mentioned, each of the different institutional models often occur in conjunction with others in real practice. Our theory and model puts a spotlight on different institutional mechanisms that can work apart from systems of rules and sanctions. Our focus is on the potential for collective action through connectedness, its underlying logic not based primarily on redirecting individually rational behavior toward the collective good but on inserting into individual decision-making a regard for the welfare of the other. Institutions are needed to foster connectedness, network-building, and interpersonal exchange. We will discuss these matters, as well as our model's implications for social network theory, in chapter 6.

Prelude

Two important points should be noted. The first pertains to the question of whether, in fact, there is other evidence (outside the experimental game research cited in this chapter) that people do think and decide in other-regarding ways. Or, are we simply just assuming that people have empathy for others? Whenever scholars bring up this question, one is moved to ask, why was this sort of inquiry not done vis-a-vis the assumption of individual rationality? The idea that people are, en toto, utility maximizers, has been the foundation for neoclassical economics and an assumption largely assumed to be a given. Nevertheless, in the next chapter, we will discuss evidence, from fields such as psychology and neurobiology, that people do, in fact, systematically think and decide in other-regarding ways (and, by the way, also in individually rational ways). In chapter 3, we will look at real-world examples of other-regard at work.

The second point is that the mathematical treatments are, by and large, simplified models of human cognition and decision-making. They are simplified models because these allow us to deduce clear patterns of behavior that help us understand real-world phenomena. Scholars make use of the prisoner's dilemma model because of its outstanding pedagogic qualities. In reality, no serious social scientist will insist that actual human reasoning is so neatly captured by these elemental models. The reality is far more complex (e.g., Mansbridge, 1990; Sober and Wilson, 1999; Enfield and Levinson, 2006; Van Lange et al. 2007). We will go beyond the simple model, in the next and succeeding chapters, and deepen what we mean by relationality.

Relationality is not simply (and not even proximally) a "feel good" thing that one hopes will happen with people but cannot assume to be a realistic option for solving world problems. As we will discuss, it is, in fact, part of the way that people actually are. It is also a mechanism that can be facilitated, in systematic ways, but this requires institutional designs that do so, a prelude to succeeding chapters. Readers who are not interested in the mathematical formulation of the relational model can skip the following Addendum and move ahead to Chapter 3, which discusses psychological and other evidence for empathy and connectedness.

Chapter Addendum

This section is for those with an interest in the mathematical basis of the game-theoretic models discussed above, including the prisoner's dilemma game and the change that comes about when decision-makers take into account the welfare of the other. It appears as an appendix because it is not a necessary part of the book but of enough interest for some that it should be included.

One common point of interest for theorists is the question of whether we can be assured, or not, of the existence of solutions to these games. By

'solution', what is meant are so-called equilibria where each player makes assumptions about what other player's utility-maximizing strategies are and adjusts their own maximizing strategy accordingly. If each player's guesses about what other player's strategies are, are indeed the actual strategies other play, then this is a predictable solution to the game. It is called an equilibrium because, since each player is already playing their optimal strategy, there is no incentive for anyone to change their strategy (e.g., how many cows to send out to pasture). It would be eventually known as the Nash equilibrium after John Nash who provided a general proof of existence of these equilibria for a general class of n-person games (Nash, 1950).

In the reference noted above, Nash proved the existence of predictable, equilibrium solutions for noncooperative games (such as the prisoner's dilemma) where each player seeks to maximize their own individual utility (i.e., individually rational players). The question for us is what happens when we slightly modify the decision functions so that they are a function not just of the player's utility but other players' utilities, as well? Would we find Nash equilibria, and what outcomes would we find in these games?

Previous work has laid the foundations for the other-regarding model (details found in Lejano, 2023). Mathematical notation is as follows.

$N = \{1, \dots, n\}$ is the set of players.

S_i is the strategy space for players i and, for this case, is a subset of \mathbb{R} .

$S = S_1 \times S_2 \times \dots \times S_n$ is the strategy space for the n -player game and is the Cartesian product of the individual strategy spaces.

$s_i \in S_i$ is a particular strategy of player i

$v_i : S \rightarrow \mathbb{R}$ is the payoff function for player i

$v_i(s) = p_i$ is the payoff to i for strategy n -tuple $s \in S$

$v(s) = \{v_1(s), \dots, v_n(s)\} = (p_1, \dots, p_n) \in \mathbb{R}^n$ is the payoff function for the game for $s \in S$

P = payoff space for the game.

U = utility space for the game.

$u_i : P \rightarrow \mathbb{R}$ is the utility function for player i

$u_i(p) = u_i$ is the utility for i for payoff n -tuple $p \in P$.

$u_i(p) = \{u_i(p), \dots, u_n(p)\} = (u_1, \dots, u_n)$ is the utility function for the game for $p \in P$.

$s \setminus t_i$ denotes $(s_1, \dots, s_{i-1}, t_i, s_{i+1}, \dots, s_n)$ or the combination strategy, s , with t_i substituted for s_i .

$p \setminus q_i$ denotes $(p_1, \dots, p_{q-1}, q_i, p_{i+1}, \dots, p_n)$ or the payoff vector, p , with q_i substituted for p_i .

Instead of merely maximizing v_i , player i 's best response involves maximizing the composite function, $(u \circ v)_i$, as shown below.

$(u \circ v)_i : S \rightarrow \mathbb{R}$ is the composition of u_i and v_i .

$(u \circ v)(s) = \{u_1(p), \dots, u_n(p)\} = \{u_1(v(s)), \dots, u_n(v(s))\}$ where

$v(s) = p \in \mathbb{R}^n, s \in S$.

The best-reply mapping $r_i : S \rightarrow S_i$ for i is a correspondence associating each strategy combination $s \in S$ with a subset of S_i such that $r_i(s) = \{t_i \in S_i | (u \circ v)_i(s \setminus t_i) = \max_{s_i \in S_i} (u \circ v)_i(s \setminus s_i)\}$

The best-reply mapping, $r : S \rightarrow S$, is a correspondence associating each strategy combination $s \in S$ with a subset of S where $r(s)$ is the Cartesian product of individual best-responses i.e., $r(s) = r_1(s) \times r_2(s) \times \dots \times r_n(s)$

The key difference with the other-regarding model is that there are two functions to consider. The first, v_i , is the same as the Nash formulation -- it is the vector of payoffs that each player gets from playing the game. But the decision in our model arises from another function, u_i , which is player i 's decision function, which depends on not just i 's own payoff, but the payoff of the other players, as well. As is required in these proofs, sufficient conditions are prescribed for these functions, as follows.

The rest of the proof entails showing that other-regarding players can reach an equilibrium set of strategies, where each player has a utility function that includes the payoffs for the other players and, moreover, employs a strategy that maximizes this utility function. Moreover, this optimal strategy is based on assumptions regarding the other players' respective strategies and, at the equilibrium, these assumptions correctly match what the other player's respective optimal strategies are.

One conventional way of showing this is to prove that the game has a fixed point. First, one makes the standard assumption that S_i is compact and convex for each $i \in N$, $S_i \in \mathbb{R}$, along with various assumed properties (continuity, concavity) in the utility and payoff functions.

As was previously defined, $r(s)$ is a correspondence, the domain of which, S , is compact and convex. The proof then proceeds by showing that r has a fixed point, (i.e., there exists some $s^* \in S$ for which $s^* \in r(s^*)$). Using the notation, Γ , where $\Gamma = (N, S, P, v, u)$, represent the noncooperative game of complete information, then the proof assures us that Γ has at least one Nash equilibrium (Lejano, 2023).

The implication is that decision-makers with other-regarding preferences can expect to find equilibrium solutions in these game situations, much like games modeled with individually rational players. This means that, in games with complete information, players with other-regarding preference structures can predict how other other-regarding players would play and optimize their strategies accordingly. With each player following their optimal strategies, we can find predictable equilibrium solutions to the game. Essentially, this gives us some positive indication that, so long as we can even roughly understand how people combine preferences for their individual payoff with preferences for the others' payoffs, then we can reasonably model these games as with classic individually rational players.