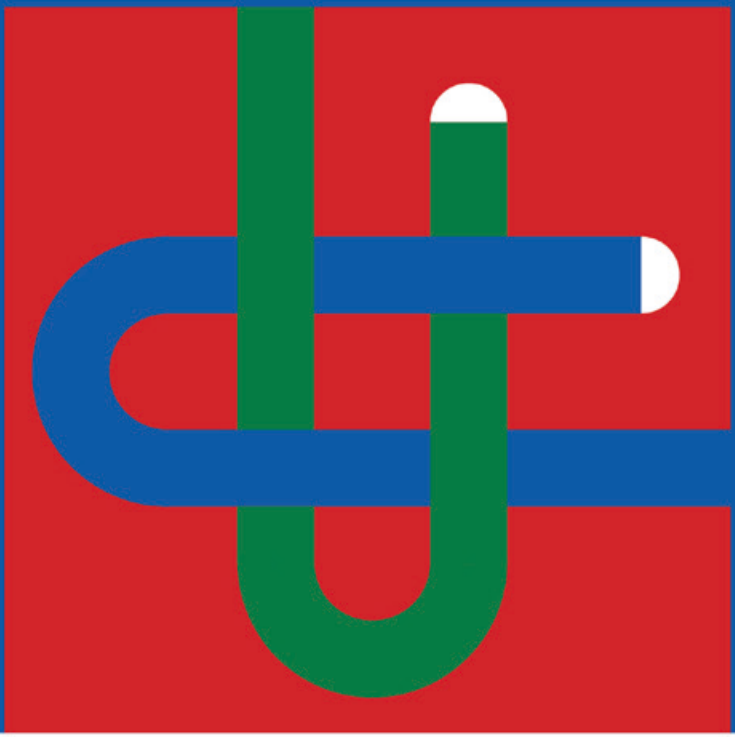
Anil Jacob Kunnel

Trust and Communication: Foundations of Interconnectivity



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Trust and Communication: Foundations of Interconnectivity

In today's global and digitalized world, the investigation of relational trust as part of social connections has remained a popular and interdisciplinary academic topic. This book explores the idea of trust as a basic type of information processing that might be as old as human existence but has gained new attention with the emergence of online communication channels. The result is a strategic reconsideration of the brain's role in the formation of social relationships and a new look at how information might shape our confidence in others.

The Author

Anil Jacob Kunnel is a German researcher, writer, and filmmaker. He received his MA in communication science, German philology and English philology and has since dealt with the changing social realities of an interconnected world in both his scientific and artistic work.

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Preface

I finished this theory book as my doctoral dissertation in 2017 after a year of writing and an extensive period of literature research in which I had worked through more than 600 journal articles and monographs related to trust. I was surprised that the task of building a theory turned out to be a rather pragmatic activity, one that was as much about trying to learn a certain craft as it was about creative problem-solving. It was also about strategically testing and throwing away ideas. In the end, a new theory contribution to a common scientific problem ("What is trust and how does it rely on information processing?") needed to establish its own distinct logic but still had to be true to the existing body of research.

Most social science scholars are familiar with trust issues as they relate to the basic principles of social bonding and human connection and also have wide-ranging implications for social behavior and structure. Trust is increasingly explored in an interdisciplinary context, connecting different areas of research such as sociology or psychology. While interdisciplinarity often produces innovation, it can also be quite problematic at times. Working with different scientific belief systems can be difficult if they are not compatible on a theoretical level. In the course of writing this book, I developed a few strategies to deal with this specific problem.

First, I decided that the two primary objects of interest in this book would be communication and information processing. This rather narrow view allowed me to focus on the basic information exchanges and cognitive processes that, according to the literature, seem relevant for trust to exist.

Second, it became quite clear that there are various and sometimes contradicting definitions of trust. While the book does give an overview of these different theoretical approaches, I tried to avoid any use of the literature that would suggest a closed or definitive body of research. Since this was another theory contribution, I needed to be precise with my own choice of words and included a glossary for the terms I use in the book.

Third, I only referred to "trust" as a single entity and not to a particular type or subcategory of trust. If you are more familiar with using subcategories, the one that seems closest to the ideas presented in this book is "relational" trust, as it specifically deals with the perception of social relationships.

Fourth, I chose to organize this book in a way in which each chapter was part of one continuous, coherent argumentation. The two main inspirations for

structuring my ideas were Robert Dubin's *Theory Building* and David Deutsch's *The Fabric of Reality*, both offering great principles for organizing thought. Looking back, this strategy comes with certain benefits and drawbacks. While I hope readers appreciate the fluid and essayistic style, I also hope that they can relate to my strategy of reasoning.

The primary goal of this book is to introduce and articulate a new idea, one that can be further explored, discussed or even falsified and might lead to a more nuanced empirical investigation of trust in terms of human information processing. I hope that it serves as a satisfying contribution to the existing research and that it encourages readers to incorporate theory building and strategic speculation more frequently into their scientific routine.

Anil Jacob Kunnel

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Introduction

When was the last time you *trusted* someone*?*
While this may seem like a fairly simple question, answering it is not as easy as it seems. Most people will need a moment to recollect a specific occasion. Was it really trust that was at play in that situation?

Often, it is not entirely clear exactly when (and under what circumstances) we have trusted someone. Is trust something we extend to that person only in certain situations, or is it something we do all the time? Does the trust emerge from oneself, or is the other person also responsible for it? Usually, it is not trust but the disturbance of trust that is well remembered; for many people, trust becomes a serious issue whenever they feel they have lost it. This could be the result of a disappointing interaction with someone who turned out to be unreliable; or worse, we might feel that another person has actively betrayed us. In these situations, trust becomes an issue when it is gone—and when it is time to reevaluate our sense of relatedness with a particular person or social actor.

One difficulty in determining precisely when we have trusted someone (and when we have not) is that trust itself may seem almost invisible to our perception. For most of us, it appears to be a quality of connection that allows us to feel safe and secure—a feeling of relatedness and confidence, especially in close relationships. Usually, however, we are not consciously aware of this. In fact, we may find it difficult to explain what the connection is based on—or why we made it in the first place.

Given that trust seems both highly relevant and highly invisible, it is not surprising that scholars from various scientific disciplines have attempted to explore the issue. While a lot of trust research has confirmed the functionality of trust and its significant impact on cognition and behavior, the topic is often approached through theoretical assumptions, descriptions, or categorizations instead of precise definitions. Most scholars are struggling to explain exactly what is happening within us whenever we trust or distrust another social actor.

One reason for this might be our relatively limited knowledge of how the brain contributes to our level of trust. We still know very little about the influence of trust on the core mechanics of human information processing, interaction, and perception. More importantly, there is no clear evidence that trust leads to specific outcomes or even that it is always of a generally positive nature.

Because of these limitations, many scholars have put a lot more effort into the exploration of what makes social actors appear trust*worthy*. These explorations

of trustworthiness have tended to deal with what makes a social actor seem reliable (and to some degree credible) as an interactional partner. Nevertheless, the investigation of what makes a person trustworthy and the investigation of why we trust in the first place are two different scientific endeavors.

While both trust and trustworthiness are associated with a sense of security in social interactions, each seems to emerge from a different source. The concept of trustworthiness appears to be more naturally suited for empirical research, because it seems easier to measure whether participants in a study experience a stranger to be trustworthy than to measure how much they "trust" the stranger. It therefore seems highly problematic that, increasingly, many assumptions about trust result from the growing research on trustworthiness. As I will highlight in this book, the central premise articulated in these types of investigations can be paraphrased as: Individuals trust social actors whom they regard as trustworthy.

While there might be correlations between the emergence of trust and the experience of trustworthiness, it seems too early to propose a direct causal link. Before we can empirically explore how trust and trustworthiness are related, we need to have a rigorous definition of trust, and to know what its constituents are, where it originates, how it operates, and how it can be measured empirically.

The dichotomy between trust and trustworthiness first occurred to me when I started working at an interdisciplinary research group on the relation between trust, communication, and digitized environments. I had already become familiar with the problems of users to develop trust online when I analyzed the user experience and interaction at a social networking startup as part of a research project. It turned out that the introduction of reputation systems and the automated distribution of trustworthiness cues were often not enough to produce a level of trust among users. More factors had to be taken into consideration.

Trying to make sense of trust and trustworthiness was part of a general confusion about trust as a scientific concept and the variety of definitions surrounding it. Encouraged by the ongoing cross-disciplinary conversation, I decided to further explore the issue of trust formation from an interdisciplinary perspective. On a very pragmatic level, I concluded that both the theoretical discourse and empirical research on trust would benefit from such an endeavor. The interdisciplinary context allowed me to access the various research traditions surrounding trust and consider the psychology behind trust, the sociology of trust, and the economic significance of trust.

As someone trained in the communication sciences and somewhat familiar with the concept of trust in my own area, it became clear to me that while all the

academic disciplines have their own unique backgrounds and are based on various belief systems, they share a lot of assumptions about trust. Furthermore, other disciplines confirm the role of communication (such as interpersonal and public communication, digital and analog communication, and human and nonhuman communication) in the activity of trust. Most of the writing about trust in these fields also highlights the role of human information processing. Nonetheless, many scholars shy away from further clarifying the extent to which trust is tied to human communication. Feeling this topic deserved more attention, I decided to focus on the way that communication is related to trust as the main topic this book.

Since most of the communication sciences are located at the threshold between the humanities and social sciences nowadays, parts of my argumentation are highly eclectic. Eclecticism can be a helpful tool whenever we need to deal with the complexity of an interdisciplinary or cross-disciplinary discourse; it allows us to consider insights from different disciplines and put them into context.

The aim of this book is to propose a shared, communication-centric epistemology for the exploration of trust—a scientific belief system that allows us to understand the basic role of *communication*, *human information processing*, and what I shall refer to as *social interference* in the general experience of social relationships (and by this I mean the experience or sense of being in a social relationship) and of trust in particular. The main idea presented in this book is that the human brain might inhabit the computational power to create a "social multiverse" from the information that it processes about others, and that this "social mapping" allows our consciousness to perceive unique actor-specific relations to other people.

Above all, I wrote this book to introduce a new direction for a possible theoretical understanding of trust. Consequently, its main purpose is to ask questions, not to provide definitive statements that run the risk of ignoring the complexities of trust as a research subject.

The shift to online communication in many areas of life has introduced a completely new setting to which trust research can be applied. The levels and types of information processing have notably changed and so has the need to conceptualize trust as something that can be also triggered through digital communication and media.

Furthermore, we cannot decipher the constituents of trust without a proper understanding of why and how individuals experience social relationships. As it turns out, both trust and the experience of social relationships are highly dependent on each other. For both scholars and nonscholars, this interdependency

has never been more evident than it is today. An increasingly digitized and globalized world allows us to experience social relationships on an unprecedented scale and to trust (or realize we do not trust) social actors as part of such relationships.

While the number of digital communication channels is steadily growing, our society is confronted with a new awareness of the benefits and potential dangers of social interactions and has a heightened attention to the issue of trust. The feeling of trust seems to be highly reliant on what we know about each other and the channels through which we communicate.

We are obliged to investigate how new communication structures can alter and shape our sense of relatedness and our feeling of security in interactions with others. More specifically, we need to better understand the ways in which communication is responsible for trust and the human experience of social relationships.

For this reason, I will further investigate the role of communication and information processing in the emergence of trust and social relationships in the course of this book. I will ask how trust is constituted and communicated as a functional component of the general experience of such relationships. Admittedly, this is a rather broad research question. Nevertheless, an investigation of the communication behind trust will allow us to better understand its significance in modern digitized societies. Because human communication networks have become increasingly crucial, not only for the lives of individuals but also for the overall structuration of societies, it is necessary that we acquire this understanding. To achieve this goal, this book is structured as follows:

Chapter 1 argues that trust and the individual experience of social relationships share the same origin and should be understood as essential components of *human communication networks*. On the basis of seven basic assumptions on their formation and general role in such networks, the chapter serves as a starting point for my argumentation and introduces the reader to the scientific belief system behind this book.

Chapter 2 addresses the extensive body of literature on trust that has emerged from other fields of research arguing that trust is linked to the social experience of relatedness and that, in most approaches to trust, *communication* is considered a significant element in its emergence.

Chapter 3 approaches trust and the general experience of social relationships with the help of communication theory and identifies the *social presence of an interactant* as the primary information source and stimulus.

Chapter 4 addresses the further processing of what I shall refer to as *social interference* and the memorization of *relational information* as the main driving forces behind the experience of both social relationships and trust.

Chapter 5 explains how trust can be understood as an *algorithmic programming* in the brain that triggers the automated retrieval of *relational confidence* during social interactions.

Chapter 6 illustrates how a supply of relational confidence can produce an *ease of conduct* and lower our awareness of conductional risk as part of social interactions.

Chapter 7 goes on to explore the role of *public mediators* in trust and the notion of *trustworthiness* as a common alternative to trust that emerges from the distributed intelligence within human communication networks.

To conclude, Chapter 8 discusses the final implications of this epistemological framework and proposes a new direction in the exploration of trust and social relationships based on a *theory of social interference*.

1 *Social Relationships and Trust*

Seven Assumptions on Their Formation and Their Role in Human Communication Networks

> Evolution and communication networks are both branching processes, with the difference that speciation is in the business of making DIS-connections, while communication networks (electrical, chemical, whatever) are in the business of making (and maintaining) connections. (Kelly & Dyson, 2009, para. 14)

In correspondence with journalist Kevin Kelly, historian of technology George Dyson addresses the close relation between evolution and the emergence of communication networks that he previously explored in his book *Darwin Among the Machines* (Dyson, 1999). According to Dyson, although evolution produces greater diversity between living beings, communication networks hold this diversity together by making (or maintaining) connections. Thus, evolution and communication networks are tied together through a very specific symbiotic relation; they cannot exist without each other. Following Dyson, both are essential prerequisites for any growth in human knowledge and the emergence of a larger global intelligence.[1] Without *evolution*, human beings could not have developed the ability to process, comprehend, and apply complex types of knowledge. Without the development of *human communication networks*,[2] they could not have learned to exchange and distribute this knowledge in ways more sophisticated than face-to-face interaction. Together, both processes ensured that human beings could mentally evolve as individuals—but were, at the same time, integrated into larger social structures.

The general idea of people connecting in larger communication networks has not only found its way into the scientific discourse—especially in areas of research that make use of (social) network theories (cf. Granovetter, 1983)—but has also become part of the general public awareness. Today, with digital

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1 According to Dyson (1999), the term *global intelligence* addresses the idea of a growing interconnected knowledge resource that has evolved from a convergence of biological and technological progress.

2 Following Fuhse (2009), I will use the concept *human communication networks* to refer to networks that are constituted by communication channels in which one tie is defined by a communicational relation (rather than by physical interaction) between nodes.

infrastructures that have produced global networks capable of instantly connecting large parts of the world, the idea of human communication networks is more relevant than ever. The increasing use of social media with its "friends," "likes," and "comments," has further invigorated the awareness that we are all connected (cf. Kaplan & Haenlein, 2010). Considering that the world as we know it is moving closer to widespread globalization, many people might struggle whenever their ability to produce thoughts and exchange information is dependent on sophisticated communication structures. As Giddens (1990) has argued, modern societies have become more fragmented and their structuration and social relations have become increasingly abstract. The rapid pace of change in communication infrastructures and networks as part of highly digitized societies represents both a significant challenge and an opportunity. The more complex the network, the more mental effort must the individual exert to comprehend the number of connections.

One of the most intuitive ways an individual can make sense of such connections is through the often subconscious *experience of a social relationship*. Such perception usually entails a sense of relatedness, togetherness, and affiliation and can be considered a sufficient foundation for any exchange of information. It gives an individual the instant impression of a consistent and reliable connection to another social actor and can provide a meaningful social tie as well as a subjective sense of predictability. In referring to linkages between two or more social actors, this book will mainly use two terms: *social relationships* and *social ties*. In contrast to the notion of "social ties" (which highlights the general idea that, from an external perspective, two or more actors are in some way related through any linkage, that they interact, and may have a sense of reciprocity), the idea of a "social relationship" signifies the existence of a process within the subjective and internal experience of a single individual that generates a sense of relatedness with an interactant.

While the individual experience of such relationships is highly subjective, it provides a powerful source of social structure and human bonding for any human communication network. If we consider Dyson's comments on the symbiotic relation between human evolution and communication networks, the ability to internally experience social relationships may even provide certain evolutionary advantages, as it can alter an individual's personal information channels through the impression that some connections are more meaningful or intense than others. Moreover, if two members of a human communication network experience themselves to be in relationship with each other, this may directly affect their exchange and processing of information. Even if only one of the two members experienced a relationship to the other, such a mental

connection could provide a highly efficient and powerful (albeit unidirectional) information channel within a network.

Because of this, we should approach any sense of relatedness, even a negative one, as an aspect of how people connect with each other and organize themselves in larger groups or networks. Such an abstract perspective can be particularly pertinent to highly digitized societies, in which the human ability to experience social relationships may also contribute significantly to what Dyson (1999) refers to as global intelligence. It allows us to depict something that (at first sight) appears to be highly subjective and intuitive as something with a common operating principle.

So, what exactly drives individuals to the experience of social relationships? Why do they, often subconsciously, connect with each other? Most of us have observed that some individuals get along with each other better than they do with others. Some people just happen to like each other more based on their degree of shared sympathy. It is a huge part of our experience as human beings to collaborate and bond with others—and to experience positive emotions, a sense of togetherness, or intimacy in the context of these interactions. Although we may associate this with social benefits, the experience of a social relationship is not restricted only to positive outcomes. For example, we could have strong dismissive feelings for another person, perhaps because of a bad encounter or a first impression. This aversion may even reach levels of sheer hatred, which arise whenever we meet or think of that person. In such cases, we may avoid any further contact with that person, or come to an encounter with him[3] prepared for conflict. Just like the experience of shared sympathy and friendliness, the aversion is also the result of a sense of relatedness, one in which we have built a negative connection with this person.

Relationships that are perceived as either entirely positive or negative may be the exception, though, and should be understood as the two extremes of a broad spectrum. In most scenarios, the experience of social relationships is a highly dynamic process that cannot be broken down or explained easily. It can frequently change—often to the extent that we experience the relationship as arbitrary or unpredictable. In our subjective perception, social relationships can become stronger or weaker and more or less intense or meaningful as time

3 Adapting Steven Pinker's (2014) recommendations on nonsexist language (pp. 255–262), I have alternately used the pronouns *he, him* and *his* and *she, her* and *hers* throughout the text. Exceptions occur when a specific reference or examples requires it.

passes. They can be both rewarding and disappointing. We may be uncertain or entirely confused about the future of a relationship and the need to coordinate further action, or in other circumstances, we may be quite sure that the relationship is somewhat stable. As Lewicki, McAllister, and Bies (1998) have illustrated, the idea of experiencing a social relationship has remained a rather elusive concept, one that, scientifically speaking, is still open to interpretation and discussion, as researchers have only pieced together a small part of why individuals connect with (or disconnect from) each other.

In general, we can assume that the formation and experience of social relationships emerge from many kinds of interactions. They can develop as part of family ties, romantic relations, professional collaborations, student-teacher-mentorships, group interactions, or long-term friendships; and they may arise from either long- or short-term encounters. They can constitute themselves not only through direct interaction with others but also through social networks, groups, and large collective entities like institutions, organizations, and even whole nations. With this complexity in mind, it is not surprising that many scholars have shown interest in the issue of *trust* as a component of the overall experience of social relationships. While trust does not represent the process of experiencing social relationships in its entirety, it plays a significant part in how we relate to other social actors. In this regard, an evaluation and analysis of trust can help us to better understand the general operating principle behind the experience of social relationships and the personal meaning that one specific relationship has for an individual. Arguably, there is no trust without the experience of a social relationship, and vice versa.

To deal with this level of interdependency and the variety of approaches regarding trust and the experience of social relationships, I will first approach the basic concept of a social relationship from a more fundamental and communication-centric perspective. As an epistemological foundation and starting point to further theory building, I propose seven general assumptions about the formation and general features of social relationships that will also help us to better understand trust.

Assumption 1

Social relationships are a product of our individual experience.

The first thing that all types of social relationships have in common is that they can be captured only through an individual's subjective experience. From an

outsider's perspective, there is no such thing as a neutral and objective entity that we can call a social relationship. We might observe that two people have known each other for a long time or even appear to be in an intimate relationship with each other. However, the only way to find out what kind of relationship is at play is through each individual's own experience of it. If we separately ask each person what defines their relationship, we might get two different answers. For instance, one may describe the relationship as rather formal, while the other may interpret it as close and intimate. Based on these two different testimonies alone, it would be difficult for us to capture the overarching characteristics of that social tie, as it may involve two entirely different experienced realities.

Because of this, it makes sense to talk about social relationships only if we talk about the way people individually process their social environments. Whenever we speak of a group of people and their relationships toward each other, we can ask only how each member experiences this relationship as an individual.

Assumption 2

The experience of a social relationship requires the dyadic processing of a tie.

Beyond their subjective processing, people can only experience social relationships toward social actors that they regard as equally singular interactants. This could be another individual, but it could also be a larger systemic actor. In extreme cases, such a dyadic view may result in the experience of a large institution or organization as a single interactant. While some might consider this a rather irrational view, it is a common reality, for example, for citizens who frequently declare their trust or distrust in government or the press.[4]

What all experiences of social relationships have in common is that an individual experiences the other side as a unified and singular interactant who is considered to have a singular mind and free will. Behind this observation stands the more general idea that people are able to frame their entire social environment through the lens of dyadic ties. A social relationship experienced with a large institution does not follow a different operating principle than

4 Most recently, the German term *Lügenpresse* [*lying press*] has attracted much attention, as it can be used to refer to the press as a singular entity in a derogatory way (cf. Connolly, 2015).

the experience of a relationship with another individual, as both actors are processed as distinct singular entities.

Thus, although any individual experience of a social relationship might be unique, we can assume all are based on a similar dyadic experience and operating principle: An individual with a distinct sense of self processes another actor (another individual, group, or community) as a singular entity with its own sense of self. From this perspective, each person's experience of a dyadic relationship has an identical function and may (for better or worse) directly affect the quality of interaction with other social actors. Especially in situations in which people need to deal with high levels of complexity in their social environment, any experience of a dyadic relation may be highly beneficial, as it may help them to engage or disengage more fluently with their interactants. For instance, certain information can appear more credible or comprehensible if it comes from a source that we personally know or feel related to as part of a tie.[5] The processing of dyadic relations, then, can be understood as an implicit and intuitive way that individuals make sense of their environment.

Assumption 3

The experience of a social relationship relies on communicational exchanges and sensory input.

On a very basic level, we must assume that an individual can experience a social relationship with another actor only if he is (generally) aware of this interactant and processes information about him. This should not suggest that, conversely, people necessarily experience a social relationship to anyone they are aware of; it suggests only the necessity of an informational input for such an experience. Social relationships—the sense of relatedness—are not only the result of an individual's personal capacities; they are equally a result of what is communicated (and received, or mentally processed) about the interactant. For this reason, social relationships cannot be defined entirely as internal but depend also on the input of external information. Without such an information flow, the mind could not experience the immediacy of a relationship with others.

What all of this suggests is that the experience of a social relationship can potentially "fail" if the communication and information processing behind it do not function properly. This does not mean there is an ideal way of

5 See Chapter 7 for a further elaboration on how our trust can impact the comprehension of the news.

communicating and processing social relationships; it suggests only that such communication and processing may be exposed to disruptions and errors and that a feeling of relatedness with other social actors may depend heavily on what is communicated by (or about) them. In this regard, we can understand the experience of social relationships as part of a *communicational exchange* between an individual and his interactant, because at least some kind of information must be exchanged in order to experience such a relationship toward an interactant.

Communicational exchanges may happen in direct copresence, but they can also be initiated where there is a complete lack of direct copresence (by word-of-mouth, for example, or using other communication media). For most of the 20th century, the option of experiencing mediated relationships was limited largely to such public media as newspapers, radio, and television or to the more personal sphere of telephone conversations and the exchange of letters. Considering the rapid change in information and communication technologies and their impact on our professional and private lives, we can safely conclude that our idea of what constitutes a social relationship has changed with each introduction of new communication media that offer new types of information flow and sensory input (cf. Assumption 5).

Assumption 4

Every experience of a social relationship follows the same logic and can be analyzed through a unified perspective.

In the traditional psychological discourse, social relationships are distinguished as either "real" or "illusionary" *parasocial relationships* (cf. Kumar & Benbasat, 2002; Schramm & Hartmann, 2008). While the literature on parasocial relationships often suggests that these relationships are of a secondary nature (for example, relationships to public actors such as celebrities and politicians or to institutional actors like large corporations), it might be more helpful to avoid distinctions between primary and secondary relationships. If, for instance, an individual experiences a profound sense of connectedness toward a political candidate, the experience of this relationship might be as existential to his life as his "real" relationship to a family member. While there may be qualitative differences in how we experience social relationships that are based on direct copresence versus those based on mediated communication channels, one could assume that in both cases, and irrespective of the medium, individuals process information about their interactants in very similar ways.

This is also of importance whenever we are confronted with the often-stated difference between online and offline relationships. Some scholars assume that the Internet, or World Wide Web, should be considered an alternate place that works differently from the "real" world. As Morozov (2013) has argued, such a distinction is highly problematic, as it suggests that the rules of social interaction follow an entirely different logic in this "new," artificial-world experience of social relationships. However, it seems fair to assume that most human beings are somewhat reliant on social interaction and the experience of social relationships. These bonds may be based on copresent interaction—but they might also heavily rely on mediated interactions.

As a rather extreme example, for a very religious person who believes in the existence of a monotheistic god, the experience of this god as a social actor can be very real to him and perceived as part of an ongoing (parasocial) tie—if he is provided with actor-specific information. Arguably, the experience of such a unique relationship does not follow an entirely different logic than the experience of a relationship to a good friend or a family member. And it would not follow a different logic if we experienced it using digital communication technologies. In the end, a social relationship is what an individual perceives it to be based on the exchange of information, whether he processes information from online sources or direct copresence. For this reason, a unified concept of what the experience of social relationships is made of, how it is constituted, and how it progress is needed.

Still, it is difficult to deny that our experience of social relationships is confronted with certain challenges in social environments that increasingly rely on digital communication. With the large variety of online services and the ubiquity of smartphone and desktop applications, we are confronted with a growing list of opportunities to connect remotely with other people in a global environment. Popular innovations include instant messaging, social networking, video-chat, live-streaming, content-sharing, online dating, collaborative consumption, and crowd-funding services, as well as collaborative online forums and consumer-to-consumer retailers—to name just a few (cf. Botsman & Rogers, 2011). Various scholars have noted that social networking technologies can help both individuals and groups or organizations extend their social environment effectively (Castells, 2012; Faloutsos, Karagiannis, & Moon, 2010; Kaplan & Haenlein, 2010; Kneidinger, 2010). Most importantly, communication networks marked by a high level of digital channels impact not only how their users experience social relationships to other actors but also with whom those social relationships are experienced.

Assumption 5

Digital communication technologies have produced new social resonance spaces for the experience of social relationships.

Given the close relation between the introduction of innovative communication media and the emergence of new social practices, it seems reasonable to assume that a shift in communication media would stimulate a change in how individuals relate to each other. In the end, any new communication environment produces a new sensory space for the experience of social relationships, providing new information input—and with this a new mindset for human consciousness to make and experience social connections. For example, the introduction of the printing press prompted a new set of social relationships to social actors who could now be experienced through the reception of printed newspapers or books. The same applies to the introduction of letter writing or the telephone, both of which introduced new opportunities for experiencing relationships and connecting with other social actors. We might apply a similar logic to the introduction of digital communication technologies.

In most of the literature, digitization has been explored more as a technological than a social achievement (cf. Kelly, 2010). Usually, the social changes are thought to occur because of the technological ones. For instance, technologies like smartphones and online social networking applications are seen as having set up new social norms. Yet, social changes cannot be defined as merely the result of technological changes, since societal transformations and the introduction of innovative technologies are often symbiotic in nature (cf. Innis, 1972). Indeed, the introduction of new communication technologies does not appear out of the blue but addresses specific social needs, such as the need to exchange knowledge, gain economic efficiency in transactional processes, or connect with other human beings. To support this idea, it is helpful to refer to the analytical distinction used by some scholars (cf. Brennen & Kreiss, 2016) between digitization and digitalization. In the context of my argumentation, *digitization* refers to the process of converting, sending, and receiving analog streams of information into digital bits (preferably binary numbers) with the help of electronic devices that share the same code and language system (cf. Dyson, 1999). At its core, and from a sociological perspective, digitization creates a technological foundation for human connectivity. Because digital information can be stored, shared, and distributed to scores of people (cf. Nassehi, 2015), individuals can exchange information and communicate more frequently and efficiently if communication networks are digitized.

Precursors of digitization—such as the Morse code—existed long before the invention of modern computerized devices (cf. Krippendorff & Bermejo, 2010). With the rise of computer-mediated communication and the emergence of online communication, the process of digitization has grown in significance. As information spaces such as the World Wide Web have become powerful information resources, more and more individuals are using digital communication channels to connect with each other. Above all, digitization can be understood as a form of technological progress that allows human beings to connect and communicate with less effort and greater efficiency.

Digitalization, on the other hand, can be used to refer to the social change that evolves in symbiosis with ongoing digitization—such as the formation of new types of human communication networks or new social routines (Brennen & Kreiss, 2016). It also refers to the increasing reliance on digitized environments that many people experience in their daily lives. As a concept, it allows us to explain why people who do not use digital technologies themselves may be still affected by the social consequences of digitization and may profit from (or be harmed by) them indirectly (cf. Kunnel, 2009). Modern technologies increasingly shape the professional and personal routines of many people, even if they do not actively use them; this refers not only to the adoption of digital communication channels but also to the growing wariness toward such channels that some people feel.

The concept of digitalization allows us to (lexically) address specific social changes (such as the experience of social relationships) associated with a highly digitized world without the need to rely on technological determinism. In many areas, people have accommodated to the use of digital communication channels to keep in touch with friends and family, seek new jobs, rent rooms for their next vacation, or arrange romantic encounters (cf. B. Hogan, Li, & Dutton, 2011). While placement and matchmaking services existed long before the introduction of digital communication channels, the idea of connecting with another person has never been as personalized and easy-to-use as it is with today's digital technologies (cf. Tanz, 2014). For many users, the social networking services on their smartphones and personal computers have worked as an entrance gate to digitalized navigation of their social lives and may further alter their social experience. Even if the digital distribution of actor-related information has frequently been associated with a number of serious issues, including reasonable concerns about users' privacy (cf. Moll, Pieschl, & Bromme, 2014), more people have started to use these technologies or have at least become aware of them in their daily lives (cf. Tanz, 2014). All of this might

further impact how people socially relate to and interact with each other—and how they experience social relationships.

Assumption 6

The experience of social relationships in digitalized environments may greatly affect the way individuals intuitively exchange and process information.

As I have noted, any experience of a social relationship offers a robust foundation for the exchange of information. It can be easier for two actors to exchange information if they sense that they are in a relationship—as it may offer a degree of familiarity, a feeling of security, and a sense of relatedness (or, if the relationship is negatively connoted, the complete opposite). Information can feel more credible if it comes from a person we feel positively related to (and more *in*credible if it comes from someone we feel negatively related to)—and it might also be filtered, exchanged, and processed accordingly.[6] Taking all of this into account, the experience of social relationships in digitalized environments may greatly affect the way individuals intuitively exchange and process information. Especially in situations marked by an overload of information, such experience may help individuals deal with a high degree of complexity.

Following the first five assumptions, we can assume that the experience of social relationships now plays a very significant and somewhat necessary role in the digitalization of modern societies. If we consider George Dyson's notion of the ongoing symbiosis between human evolution and the emergence of human communication channels, the ability of human beings to experience social relationships through mediated structures can be best understood as part of an interface connecting these two processes. From a communication-centric perspective, the experience of a social relationship can be framed as an implicit internal process that reduces the informational complexity of one's social environment by producing the impression that some connections are more reliable and meaningful than others (see Fig. 1.1).

To make such connections with others, human consciousness is normally accompanied by a distinct sense of self. Only if a person has a sophisticated

6 One good example to illustrate this is the spreading of news on social media. Breaking news such as terrorist attacks or natural disasters might appear much more immediate if shared by friends online. However, our friends might not always be reliable, nor are the news sources whose articles or videos they are sharing with us (cf. Holcomb, Gottfried, Mitchell, & Schillinger, 2013; Mitchell, Kiley, Gottfried, & Guskin, 2013).

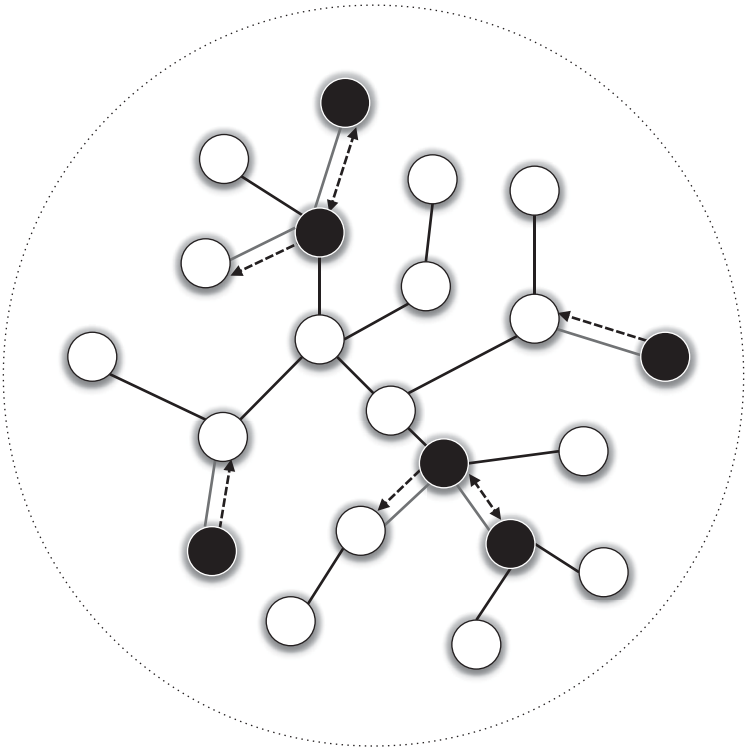

Fig. 1.1. The experience of social relationships in human communication networks. Individuals (*black nodes*) who experience social relationships toward other nodes process connections (*dotted arrows*) that appear to be especially meaningful and may enable particularly efficient information exchanges.

sense of his own identity can he see himself as part of a larger human communication network, and only if he is aware of the social environment can he get a better sense of himself. In many parts of our lives, we need to make decisions as individuals as well as act as social beings connected to a wider communication network. Whenever we experience a social relationship to another social actor, both a sense of self and the awareness of one's social environment appear to be equally relevant.

A preliminary conclusion at this point is that any experience of a social relationship, even though it can be considered highly subjective, is likely to follow a shared operating principle because of these social dimensions. A working definition can be articulated as follows: The experience of a social relationship is

an internal, implicit process that is activated by the information flow between two interactants and leads to the individual experience of a meaningful dyadic relation toward the other actor.[7]

As more and more digital communication channels are integrated into our daily lives, they often work as extensions to our existing communication channels, but they may also confront us with types of social relationships with which we have not been familiar before.[8] Taking this into account, a sense of relatedness—whether achieved through a feeling of togetherness or aversion—can profoundly impact how individuals consume and exchange information and further interact with each other in digitalized environments (cf. van Dijck, 2013). Especially today, many modern technologies and digital applications offer users new ways of connecting with each other. Still, these same users often struggle with one specific component that seems quite essential to the experience of relationships—trust. As Tanz (2014) has noted, the issue of trust has become a major concern in the emergence of digital environments, as many types of interactions (for instance renting out one's apartment to a stranger with the help of a social media application) may not be possible without the presence of trust. On a general level, this may apply not only to specific services but also, and perhaps even more so, to the general experience of digital social resonance spaces.

Following Tanz's argumentation, trust serves a particular function in the experience and maintenance of social ties, as it allows individuals to apply their sense of relatedness to actual social interactions. This function may be particularly relevant for the adoption of conductional routines that, at first sight, appear dangerous or unconventional (such as collaborative-consumption websites or applications that, for instance, allow users to rent out their apartment to strangers).

Assumption 7

Trust is a functional component of the individual experience of social relationships.

Not surprisingly, there has been significant growth in the amount of economic and scientific attention paid to the concept of trust in the emergence

7 See Chapter 4 for a more specific definition.

8 A good example of this is the online sharing economy, which commoditizes its users' personal belongings, such as apartments, cars, and clothing, so that they can be shared and acquired by other users (cf. Botsman & Rogers, 2011; Hissen, 2014; Weitzman, 1984).

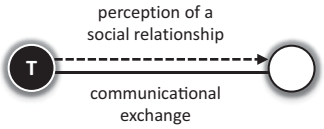

Fig. 1.2. Trust as a functional component of the experience of social relationships. Trust (marked "T") plays a significant role in how an individual (*black node*) processes information about his interactant (*white node*) and further engages with him on the basis of a sensed relationship.

of digital social resonance spaces, since digital interactions are often associated with great predictive uncertainties. In online interactions, individuals are often confronted with high levels of complexity and information overload (cf. Beaudoin, 2008; Eppler & Mengis, 2004) and may struggle to develop a real sense of relatedness (cf. von Kaenel, 2013). However, uncertainties are also often highly relevant whenever users experience new opportunities and benefits in interacting with others.

Without a level of trust, the dynamics of social interactions can quickly change as the result of a single disruption or the coming to light of delicate new information, as is the case with public, government, or corporate scandals (cf. Schoorman, Mayer, & Davis, 2007, p. 344), which are particularly dependent on the mediated distribution of information. In this regard, both trust and the experience of social relationships serve as internal foundations of *interconnectivity*, which is defined in the context of this book as the ability of an individual's consciousness to develop an internal sense of relatedness and connectivity with other social actors. Both trust and the social experience of relatedness enable highly efficient information exchanges and motivate social interactions and, as Lewicki (2003) has noted, seem to result from the same source—a sense of "shared identity" with another social actor (see Fig. 1.2).

Although scientific research has offered numerous insights in various fields of study (such as philosophy, sociology, psychology, and economics), it is still not clear how trust is initiated and constituted on a very basic level (cf. Lewicki, Tomlinson, & Gillespie, 2006). We still do not know exactly what trust is and how it is tied to the general experience of social relationships; what we do know is that it produces some kind of confidence and is associated with a degree of vulnerability in social interactions (cf. R. C. Mayer, Davis, & Schoorman, 1995). So far, the literature has mostly provided rather vague ideas of how trust operates and how it accompanies the experience of social relationships. In many cases, it is thought of as a "gut feeling," or conceptualized as a reduction

of social complexity, or expressed through metaphors such as "social glue" (cf. Blöbaum, 2014, p. 14). Specific research on the linkage between trust, communication, and information processing (especially in the context of ongoing digitization and digitalization) is still very rare, even though there is a growing interest in the role of trust in communication-related areas such as journalism studies (Kohring & Matthes, 2012), media psychology (Flanagin & Metzger, 2007), and social network analysis (Golbeck, 2013; Quandt, 2012).

In Chapter 2, I will review the extensive cross-disciplinary body of literature on trust and argue that trust is linked to the social experience of relatedness and that, in most approaches to trust, communication is considered a significant element in its emergence. As we will see, the idea of trust has become a popular factor in a variety of scientific fields and has experienced a broad, and sometime confusing, history of research. For this reason, the following chapter mostly serves as an excursus that allows us to use the existing knowledge on trust (and the general nature of social relationships) for a further exploration of their shared communicational foundation.

2 *Between Social and Mental States*
Trust in the Scientific Discourse

As the subject of scientific exploration, trust seems to be in high demand nowadays. While human communication networks are expanding and new types of social relationships are experienced daily, trust has become a shared topic in newspaper headlines, political speeches, and marketing campaigns (cf. Kerbusk, Piegsa, & Frevert, 2015). In everyday language, trust is associated with attributes such as safety, intimacy, stability, and reliability, while a lack of trust is linked to insecurity, instability, and risk. Every time there is a public crisis, every time a public persona is accused of something, the newspapers and media express their lack of trust. The presence or absence of trust has become a recurring part of the public debate and has found even greater attention in the digital age and through the emergence of new types of communication networks. It is regularly used to demonstrate power, dependence, influence, or rejection toward another actor (cf. Bou Zeineddine & Pratto, 2014). For this reason, the notion of trust has become an essential foundation for building (and expressing) either confidence in or skepticism toward other social actors.

While the humanities and social sciences have offered valuable conceptualizations of trust, little is known about its origin or formation. Most scholars have suggested that trust operates somewhere between the mental and social spheres of human interaction and that it impacts the way a person experiences risk in social interactions (cf. Barber, 1983; Luhmann, 1979). Furthermore, they have mostly agreed that trust is firmly tied to a specific way individuals experience and process other social actors and can be considered highly complex in nature (cf. Hartmann, 2010).

Trust research can be found in a large variety of disciplines, including psychology, sociology, political science, economics, anthropology, and organizational behavior (cf. Lewicki et al., 1998, p. 438). In the scientific context, trust can refer to different (and often contradictory) concepts. Sometimes it is understood as a type of behavior, sometimes as a mental state or a kind of social practice, and sometimes it is interpreted as a "leap of faith" (Möllering, 2013, p. 2).

Consequently, there are a lot of open, unanswered questions in the scientific discourse. Is trust a motivation? Is it an emotion? Is it a type of *conduct*?[9] Or is

9 In the context of my argumentation, the word *conduct* shall include not only an actor's behavior, but also the way an actor emotes or participates in that situation.

it just a metaphor for something? Even though a lot has been written on the subject, scholars still struggle to articulate clearly what trust refers to (cf. Lewicki et al., 2006). For this reason, it is not clear whether scholars from different fields have been talking about the same thing or about interrelated concepts whenever they address trust.

The multiplicity of interpretations and general lack of a precise definition in the scientific discourse is no coincidence, as the meaning of trust has undergone an etymological progression, and in everyday usage and as a general aspect of social interactions (for instance, when someone declares "I trust you" to another person to express her commitment) has been subject to different interpretations (cf. Hardin, 2001). Following the German historian Ute Frevert (2013), who offers one of the more recent analyses of trust as a particularly modern concept, the usage and interpretation of trust has undergone various transformations throughout history and should therefore be put into a specific cultural context when analyzed.[10] According to Frevert, the success of trust as a concept illustrates how both increasing individualization and a growing need for interconnectivity have established themselves as distinct components of modern societies (cf. Endreß, 2008, p. 2). She further argues that since the experience of relatedness has gained more significance as part of the public discourse, the concept of trust has been progressively used to refer to this new social reality.

In the 19th century, trust became a larger-than-life concept, a sort of shared ideal of social relatedness, and thus transformed into a general concept of intimacy and familiarity—describing the amicable and pristine side of social relations:

> Although the encyclopedias of the time warned the reader against too much trust and blind confidence, it can be interpreted quite easily that trust had become modernity's favorite desire. Supposedly, giving trust, as much as receiving trust, produced a strong

10 It is important to note that Frevert has depicted only the German etymology of the noun *Vertrauen,* which even more than its English counterpart, *trust,* addresses the social dimension of the phenomenon. While the English *trust* is often applied to human interactants, but can also refer to the reliability and credibility of information and other nonhuman reference points, *Vertrauen* refers specifically to the presence of an experienced or sensed social relationship with human entities. In order to refer to the reliability or credibility of information or nonhuman reference points, the verb *trauen* is usually used instead of *vertrauen*.

> sense of well being. Those who received trust could consider themselves trustworthy and enjoy high social reputation and capital.[11] (Frevert, 2013, p. 36)

Because modern societies tend to offer more complex types of social structuring, the idea of whom you can trust became increasingly important in the 20th century. Trust can be addressed not only toward other people but also to "formal relations and abstract organizations, as found in the economy, society and politics"[12] (Frevert, 2013, p. 39). Frevert has further noted that this type of trust in more abstract social actors has become a more dominant idea in the late 20th and early 21st century. Today, people can not only trust friends and family, they can also potentially trust (or mistrust) the manufacturers of products they are consuming, the politicians they elect to office, or even the larger institutions and societal systems on which they rely.

Furthermore, in the public sphere, trust is often discussed as something individuals must be constantly aware of in order to function properly in social interactions (cf. Frevert, 2013, pp. 39–41). From this perspective, trust is considered to be fundamental to how people generally experience relatedness and how they communicate with each other. Following this rhetoric, trust has seemingly become a permanent part of how individuals process their social environment in an increasingly globalized world.

2.1 *Theoretical Assumptions on the Functionality of Trust*

Judging by the cultural and semantic shifts, it seems evident that the etymological progression of the word "trust" has resonated with the changing public understanding of what constitutes a social relationship in modern societies, with their changing communicational infrastructures (cf. Giddens, 1990). Considering this change, scholars have adopted a variety of interrelated approaches to the issue of trust. To address this variety, I will briefly summarize the most significant theoretical assumptions about trust. The aim is not to present these assumptions as parts of a single narrative but rather to emphasize the various interpretations of trust that have emerged from the changing meaning of social relationships over time.

11 My translation from the original German.
12 My translation from the original German.

2.1.1 *The Role of Trust in the Experience of Others*

According to Martin Endreß (2002), most philosophers and sociologists have shared the opinion that trust is not a simple entity but instead emerges from the complexity of our social environment. For instance, Émile Durkheim hinted at the existence of a modern, normative obligation between actors that would enable the emergence of social agreements—a type of organic solidarity between social actors that works as a prerequisite for many complex social interactions, as it offers a specific kind of invisible contract (cf. Durkheim, 1988, as cited in Endreß, 2002). This contract further generates shared moral expectations and a specific code of conduct. Following Durkheim, many complex social relations can be maintained only if this kind of solidarity—the assumption that the other side is like-minded and benevolent (and has similar goals)—can be invigorated.

Furthermore, Georg Simmel suggested that trust was something that could operate not only within direct, interpersonal relationships but also in the realm of professionalized relationships and interactions based on objectified and symbolic dimensions (cf. Simmel, 1989, as cited in Endreß, 2002). Thus, he addressed trust as a normative obligation on the micro, meso, and macro level of modern societies, suggesting that forms of trust could be present not only in interactions with other individuals but also in interactions with groups as well as systemic institutions.

Contrary to Simmel, who assumed that the micro and macro levels of our society offered different types of trust, Max Weber suggested that any sense of relatedness on the part of social actors *concurrently* featured similar levels of personal, communal, or societal affiliation (cf. Weber, 1976, as cited in Endreß, 2002). Thus, Weber thought that people could draw from different sources and emergence levels—such as appearance, status, profession, or systemic representation—in order to trust other social actors. For instance, a policewoman could be simultaneously experienced through her individual personality, profession, or role as representative of the state. Furthermore, Weber predicted that a general trust in strangers would enable a person to build *new* transactional relations, since, based on her trust, that person could expect shared codes of conduct and a general reliability in future interactions (cf. Weber, 1976, as cited in Endreß, 2002). In Weber's definition, trusting other social actors is almost a rational skill, one that allows individuals to connect socially with strangers (cf. Misztal, 1996; Schluchter, 1976).

Following this tradition, Lewis and Weigert (1985) have more recently noted that trust generates the idea of "mutual 'faithfulness' [. . .] on which all social relationships ultimately depend" (p. 968). Accordingly, interactants usually

have a more consistent idea of how to engage with each other whenever trust is present. Nonetheless, the authors have suggested that even if trust often seems "functionally necessary for the continuance of harmonious relationships, its actual continuance in any particular social bond is always problematic" (Lewis & Weigert, 1985, p. 969).

2.1.2 *The Role of Trust in Social Interactions*

With the increasing knowledge of the role of trust in our experience of others, it became more evident to scholars that trust had a significant meaning for the outcome of social interactions. Peter M. Blau was one of the first to note that trust seems particularly essential in social interactions—which are highly different from formalized exchanges, as they are less predictable and bound to fewer rules and regulations:

> Since there is no way to assure an appropriate return for a favor, social exchange requires trusting others to discharge their obligations. [. . .] Only social exchange tends to engender feelings of personal obligation, gratitude, and trust; purely economic exchange as such does not. (Blau, 1964, p. 94, as cited in Endreß, 2002)

According to Alfred Schütz (1974), any social, nonformal interaction requires a sense of coherence and familiarity. Without the knowledge of what kind of person they are interacting with (and whether they can rely on that individual's testimony), an individual cannot anticipate her interactant's behavior or further reciprocate in cooperative ways. However, not every situation can offer a distinct sense of familiarity and indeed, some may be experienced as dangerous or risky.

Following Niklas Luhmann, many social interactions whose outcome is not entirely predictable, especially those that feature high risk, are characterized by a number of contingencies; in the worst case, the other side might even *harm* you. Luhmann assumed that in order to further engage in such situations, human beings could rely either on their hope in a generally positive outcome of the interaction or on their explicit trust in the interactant; he further assumed that, unlike hope, trust requires a distinct knowledge of the possibility of being harmed by the interactant:

> Trust [. . .] always bears upon a critical alternative, in which the harm resulting from a breach of trust may be greater than the benefit to be gained from the trust proving warranted. Hence one who trusts takes cognizance of the possibility of excessive harm arising from the selectivity of others' actions and adopts a position towards that possibility. One who hopes simply has confidence despite uncertainty. Trust reflects contingency. Hope ignores contingency. (Luhmann, 1979, p. 24)

Because Luhmann believed trust is characterized by an individual's consideration of contingency, he suggested that a person generally needed to be aware of her interactant's mental state and agenda in order to trust; at least, she had to assume that her interactant played by the same rules when she relied on their trust. Consequently, Luhmann saw trust as the result of a mutual awareness and communication of shared interest in social interactions:

> [T]he communication of interest in the display of trust, the presentation of self as trustworthy, the acceptance and the reciprocation of trust are all efforts to intensify and generalize social relationships which prove, in long-term relationships at least, to be both opportunity and constraint. Thus, an element of social control is built into relationships of trust. (Luhmann, 1979, p. 64)

For a better understanding of Luhmann's approach to trust, the idea of *double contingency* is highly essential. Basically, double contingency refers to the notion that an individual experiences a mutual awareness in social interactions: she processes her interactant's conduct, but she is also aware that her interactant processes his own conduct. Consequently, any sense of social order (or social risk) in such interactions depends on the contingencies associated with *both* interactants. As James L. Loomis (1959) has suggested, an individual must be aware not only of herself in the relationship, "but [s]he must know the other person's role, and [s]he must be assured that the other person's thinking is similar to [her] [. . .] own before there will be any basis of cooperation" (p. 306). As Kron, Schimank, and Lasarczyk (2003) have noted, double contingency can be understood as the elemental source of communication (and therefore, of the formation of human communication networks). Only if two actors (or entities) are aware of each other can they engage in informational exchanges and produce new types of order.

For Luhmann, trust enables people to experience a sense of social order even if they are aware of risk through double contingency. In terms of his definition, trust may be understood as a part of a specific *communicational relation* between an individual and her interactant through which they become mutually aware of each other. With the help of trust, individuals are thought to be capable of handling the informational gap of risk and their general awareness of double contingency—factors that otherwise could further complicate social engagement or even render any further interaction impossible—with a certain ease.

As Giddens (1990) has suggested, the filling of informational gaps can be considered one of the primary functions of trust. Especially in modern human communication networks, many mediated communication channels are characterized by spatial or temporal distances as well as epistemic imbalances between interactants (cf. F. Hendriks, 2015). Therefore, trust seems essential if

individuals want to establish, despite these gaps and disruptions, a sense of stability and reliability in their experience of others. According to Loomis (1959), a key feature of trust is that it can ensure the continuance of a social tie as part of a communicational relation; simply speaking, it holds the experience of social ties together, even if they are in danger of falling apart.

Unless an individual has "already learned what to expect from the other person, he will have to depend for these awarenesses on communication between himself and the other person" (p. 306). Following Loomis's suggestion, trust can be considered part of the "connective tissue" in the dynamic interdependencies of social ties (cf. Endreß, 2008).[13] Trust allows individuals to experience social interactions as consistent and reliable by (at least) giving them the momentary impression of a continuous communicational relation.

2.1.3 *The Role of Trust in Social Ties and Networks*

Because of its rather unique impact on social interactions, scholars who believe trust can help individuals overcome insecurities and the general sense of risk in interactions have assumed that trust can greatly affect the ongoing progress of social ties (cf. Karlan, Mobius, Rosenblat, & Szeidl, 2009). Many scholars assume that trust allows individuals to interact with social actors with whom they are not yet familiar, because it can potentially compensate for informational gaps or a lack of full disclosure (cf. Wang & Emurian, 2005).

Since there has not yet been a precise answer as to how trust is constituted, assumptions differ on where, precisely, it is located within the realm of social ties. Following Granovetter's (1983) original *theory of strong and weak social ties,*[14] trust can be seen as "a property either of individuals or of the emotional content, common understandings, or reciprocities of their interpersonal relationships" (S. P. Shapiro, 1987, p. 625). Like many scholars, Granovetter assumed that the

13 Parts of this section are taken from a previous article on relational trust by Kunnel and Quandt (Kunnel & Quandt, 2016) and used with permission.

14 Granovetter defined social ties based on their *reciprocal services*, *time*, *emotional intensity,* and *intimacy*. In the literature, additional features such as *social distance*, *emotional support,* and the *social structure* itself have been investigated (cf. Golbeck, 2013, pp. 66–68). These are primarily features of undirected ties. Although there are several open questions regarding the strength of directed ties (cf. Ruef, 2002, pp. 430–432), it can be assumed that the strength of directed ties can be measured through directed features such as *participation*, *support,* and *emotional involvement*.

communicational relation associated with trust has a significant impact on the progress of social ties, even if it is only experienced subjectively.

Consequently, many social ties are thought to rely on trust, since it promotes nonspecific obligations, such as commitment or honesty, within two actors (cf. Endreß, 2002, p. 23). If trust is present, social exchanges may even offer opportunities that economic or formal exchanges cannot deliver. With that in mind, Coleman (1994) has demonstrated that the presence of trust can strongly impact how people share responsibilities with each other and is deeply tied to "the unilateral transfer of control over certain resources to another actor, based on a hope or expectation that the other's actions will satisfy his interests better than would his own actions" (p. 91).

Coleman (1982) further assumed that trust is often a necessity in social interactions that are marked by a degree of *asymmetry*. Social ties generally feature imbalances in power, status, and knowledge, and a level of trust is often required for individuals to overcome them. Because of these asymmetries, without the regulatory function of trust, people would fail to relate (positively) to each other. For instance, Talcott Parsons (1978, as cited in Endreß, 2002) has argued that trust can in fact be a requirement for the formation of social structures that include interactions with highly abstract expert systems and symbolic media. Similarly, Harold Garfinkel and Erwin Goffman have suggested that the way that human beings trust might significantly contribute to social norms between interactants, especially in modern societies—since, in such societies, trust can often be demanded as a requirement for social interaction (cf. Endreß, 2002, pp. 24–25).

Trust is therefore widely thought to have a specific function not only for the progress of social ties but also for human communication networks in general. One way scholars have framed the specific impact of trust on network structures has been to locate it as a part of a network's *social capital*[15] or *social collateral* (cf. Karlan et al., 2009). According to Robert D. Putnam, such a social dimension of trust rests

> implicitly on some background of shared social networks and expectations of reciprocity. [. . .] [It also] extends the radius of trust beyond the roster of people whom we

15 Social capital describes the entirety of current or potential resources in a social network that are characterized by a sense of belonging as part of their infrastructure (Bourdieu, 1983, p. 191). In that sense, the positive confidence associated with trust is considered a valuable resource for cooperation or collaboration within a community, as it implies shared values and attitudes (Sherchan et al., 2013, p. 47:14–15).

> can know personally. [. . .] Social trust in this sense is strongly associated with many other forms of civic engagement and social capital. Other things being equal, people who trust their fellow citizens volunteer more often, contribute more to charity, participate more often in politics and community organizations, serve more readily on juries, give blood more frequently, comply more fully with tax obligations, are more tolerant of minority views, and display many other forms of civic virtue. (Putnam, 2000, pp. 136–137)

However, Putnam did not frame trust exclusively as something positive. He assumed that it could also generate "vicious spirals (or virtual circles)" (p. 138), since our expectation of the trustworthiness of others influences the perception our own trustworthiness, which in turn influences their behavior. In his understanding, the outcome of trust relied heavily on how individual perceptions and social norms were communicated within a network or community.

In many ways, this becomes even more evident in the context of human communication networks that rely primarily on online communication. Sherchan, Nepal, and Paris (2013) have argued that "[u]sers trusting each other, working, and interacting with each other is the real source of power and growth for any community. Therefore, trust becomes a critical factor in the success of these communities" (p. 47:14). Vincent Willem Buskens (2002) has further noted that trust will also highly impact *information diffusion* within such networks. Although scholars do not generally agree on the origin or formation of trust, many of them have attempted to investigate its general role in such communities and, more frequently, in online social networks, since they believe that trust can be highly beneficial for social structuring. In the literature, trust is understood as a key factor not only in the emergence of new communities on the World Wide Web (cf. Thiedeke, 2007) but also in the formation of social movements in general (cf. Castells, 2012; Connolly, 2015).

As Loose and Sydow (1994) have suggested, the general confidence emerging from trust can be considered a prerequisite for many new transactional and coordinative processes and a central source for the acquisition of new members. Some scholars have highlighted the importance of this confidence for the presence of reciprocity, connectivity, or altruism within social networks (Diekmann, Jann, Przepiorka, & Wehrli, 2014), while others have related trust and an experience of social relatedness to the effectiveness of information flows within a network (Sundararajan, Provost, Oestreicher-Singer, & Aral, 2013). It is further assumed that trust will impact not just the accessibility of new information within communication networks (Karlan et al., 2009) but also the integration of outside knowledge (Loose & Sydow, 1994, p. 161).

2.1.4 *The Role of Trust in Social Structuring and Information Exchanges*

While most explorations of trust's function have attempted to locate it either as part of the experience of individuals or as part of the development of social ties and structures, some scholars have used a more complex and multi-layered definition of trust to connect these two dimensions. For instance, Lynn G. Zucker has noted (1985) that trust allowed members of a social network or organization to experience social relationships both toward co-members and the network or organization in general. In many ways, this is in line with the approach to trust taken by scholars like Bernard Barber (1983), who concluded that trust's primary function is that of "social ordering, of providing cognitive and moral expectational maps for actors and systems as they continuously interact" (p. 19). Simply speaking, Zucker thought that trust helped individuals to develop a shared understanding of *how things are done*:

> Although important mechanisms of trust production can arise within local exchange, it is not until they are reconstructed as intersubjective and as part of the "external world known in common" that they generalize beyond that transaction. This process of reconstruction has been called institutionalization: the process of redefining acts as exterior when intersubjective understanding causes them to be seen as part of the external world and objective when they are repeatable by others without changing the common understanding of the acts. [. . .] When trust producing mechanisms are high on institutionalization, they rest on widely shared understandings of "how things are done." (Zucker 1985, pp. 11–12)

Following Zucker's argumentation, the emergence of shared common practices and behavioral routines within a human communication network can often be interpreted as a direct result of trust. Trust may also greatly contribute to the institutionalization of social groups, as it enables a mental distinction between one's own community and the external world. Especially in larger networks, the specific way network members trust each other can often be representative of the network's social infrastructure.

One factor contributing to the institutionalization of groups to which scholars have given increasing attention is the heavy reliance of any interaction within social networks on the network's communicational infrastructures. This reliance might apply equally to trust, which (as we have already seen) scholars have often approached as a communicational relation. According to Giddens (1991), (mass-) mediated information about other social actors may greatly impact our ability to trust, as it can enable communicational relations to

more abstract social actors (such as organizations or governmental institutions) (cf. p. 115). Therefore, reliable and credible information sources can be of great value for our ability to trust—especially in digital social-resonance spaces (cf. Flanagin, Metzger, Pure, & Markov, 2011; Reich, 2011a).

For this reason, professions or institutions such as journalism, public relations, or marketing, which are all in the business of distributing (actor-related) information, can profoundly influence the way individuals trust (Blöbaum, 2014; Hoffjann, 2011; Kohring, 2001). As Thorsten Quandt (2012) has noted, new communication media, such as social networking services, may further impact the way people build trust and relate to each other, as they often serve as alternatives to traditional mass media. Taking all of this into account, modern communication technologies (especially digital technologies) may alter or even change the communicational relation behind trust and provide it with new functionality and meaning as part of a new resonance space (as noted in Chapter 1).

2.2 *Empirical Approaches to the Formation of Trust*

Theoretical assumptions about the functionality of trust have shown that trust is not a particularly new phenomenon but a more basic element of human social experience. While trust may draw greater public attention whenever social structures undergo change or underlie rapid transformational processes (such as increasingly dynamic communication networks), scholars have suggested that it plays a primary role in how individuals experience their interactants. For this reason, it can be assumed that in order to participate in their social environments, human beings have developed a primordial need to trust, as it eases and simplifies their social interactions and their general experience of social relationships. Without this simplification, many common types of social interaction would otherwise be confronted with a greater awareness of conductional risk.

So far, I have addressed approaches to trust that give an analytical and rather descriptive idea of how trust functions and how it impacts social interactions. What can be emphasized at this point is that trust affects not only the experience of individuals but also the larger communication networks. It is generally thought to help people overcome informational gaps in social interactions and to help preserve a communicational relation with their interactants. While the literature has provided plenty of arguments on why trust is of general importance for social interactions, it has often avoided any further exploration of

the origin or emergence of trust. One reason for this is the relatively limited knowledge of how the human brain generates consciousness and how exactly this affects human behavior (cf. Epstein, 2016). Because of this, the empirical exploration of the formation of trust is still in its infancy and can surely profit from newer fields of research, such as cognitive, affective, and behavioral neuroscience (cf. Koscik & Tranel, 2011).

Nevertheless, researchers have approached trust from a variety of scientific perspectives (such as sociology, psychology, and economics), all of which have their individual history and agenda but have more recently moved in a cross-disciplinary direction. While all of these traditions have mutually highlighted the motivational, behavioral, or structural aspects of trust, they have, according to Guido Möllering (2013), generated "different interpretations of critical situations, highlighting different issues and potential solutions" (p. 13).

As I have noted, the result is a general diffusion of concepts that focus on various aspects and characteristics of trust. According to Rousseau et al. (1998), "disciplinary differences characterizing traditional treatments of trust suggest that inherent conflicts and divergent assumptions are at work" (p. 393). This variety might further lead to the conclusion that trust may be an umbrella term for a number of different phenomena. Terms like "swift trust," "calculation-based trust," or "deterrence-based trust" have originated from the literature and have led to different strategies for measuring trust (cf. Lewicki & Brinsfield, 2009).

Indeed, some doubts may be raised as to whether different scholars are talking about the same phenomenon. For instance, Lewis and Weigert have strongly recommended clear distinctions between different research programs, especially in the area of psychological research. According to them,

> [t]he fundamental reason for the persistent segregation of these research programs is that trust is a highly complex and multidimensional phenomenon, having distinct cognitive, affective, behavioral, and situational manifestations which may not be co-present at any particular point in time; therefore, it is often far too simplistic to ask whether an individual trusts or distrusts another person or governmental agency. One may trust in some respects and contexts but not others. As a result, when trust is regarded as a psychological state, it is easily confused with other psychological states (hope, faith, behavioral prediction, etc.), and dealt with methodologically in ways which have reductionistic consequences. (Lewis & Weigert, 1985, p. 976)

For this reason, any of the unique contributions that I will present in the following contextualization should be interpreted based on their epistemological foundation. It seems possible to segregate these findings and still aim for a more

inclusive perspective that helps us to understand the defining characteristics of trust. Even if the approaches differ in detail, they still encourage the idea that trust as a closed entity is part of a very distinct mental process that functions similarly in most individuals and may result in comparable outcomes.[16]

2.2.1 *Behavioral Approaches to Trust*

The earliest noticeable experiments on trust were based on *behavioral* approaches, in which trust was often understood in terms of rational decisions in situations that featured high risk. Researchers like Morton Deutsch (1958) suggested that individuals relied on trust whenever they needed to cope with uncertain, yet predictable outcomes that might, in the end, lead to a gain or loss of resources.

Often, trust was evaluated in terms of an interactant's intention, which was further "indicated by cooperative moves by the participant" (Lewicki et al., 2006, p. 995). Researchers used different kinds of game experiments in order to observe trust in social interactions. In the "trust game," a popular behavioral measure of trust and trustworthiness and a variation of the dictator game, a "trust credit" was given by an isolated individual as part of a decision (cf. Johnson & Mislin, 2011). In the "prisoner's dilemma game," mutual trust was thought to affect how two imprisoned members of a gang would incriminate each other if offered mitigation. As Lewicki et al. (2006) have noted, behavioral approaches to trust tend to imply that trust is built entirely on rational thought and that it is caused by a rational evaluation; for this reason, trust was often presumed to begin at *zero* during interactions.

Critics of behavioral approaches to trust have argued that game situations like the prisoner's dilemma minimize the role of social interaction and do not include human communication at all. Robert L. Birmingham (1969) has questioned whether the emergence of mutual trust can be explained through rational thought at all, or whether it is only of importance if—and only if—an individual does not have any option of rationality. Furthermore, Luhmann (1979) has noted that "one of the more definite findings of the 'prisoner's dilemma' experiments is that the formation of trust is hindered by the exclusion of communication" (p. 46). In this regard, depending on the perspective, game

16 While the following classification is mainly the result of my own contextualization, it may, in parts, comply with the secondary literature provided by Sherchan and colleagues (2013), Lewicki and colleagues (1998), as well as Rousseau and colleagues (1998), who have all offered very helpful insights into the issue of trust research.

experiments on trust may tell us more about the *lack of trust* (and the lack of a communicational relation) in social interactions than about trust itself.

2.2.2 *Unidimensional Cognitive Approaches to Trust*

In the second half of the 20th century, the exploration of trust moved in a new direction, one in which "psychologists commonly frame their assessment of trust in terms of attributes of trustors and trustees and focus on a host of internal cognitions that personal attributes yield" (Rousseau et al., 1998, p. 393). According to developmental psychologist Paul L. Harris (2007), trust is a cognitive resource that starts to develop as soon as early childhood. Humans need to develop this resource early in order to "establish a cognitive profile of their informants" whenever they have to form "a global impression of each individual, regarding some as more epistemically trustworthy than others" (2007, p. 138). In that regard, children learn to rely on "various heuristics at their disposal for evaluating what they are told" and to further "filter incoming testimony" by others (2007, p. 135).

Following this logic, many scholars believe that individuals differ in their cognitive production of trust based not only on their individual dispositions, beliefs, and attitudes but also on their evaluation of an interactant. This assumption is also a recurring idea in what can be referred to as *unidimensional*[17] definitions of trust (cf. McKnight & Chervany, 2001; Wang & Emurian, 2005). In such definitions, trust is understood as a one-dimensional entity—a single cognitive resource that one can retrieve as part of social interactions.

What unidimensional approaches have in common is that they try to predict how trust cognitively impacts human motivation in social interactions and how it contributes to the management of expectations and the level of confidence[18] within the experience of social relationships. For the most part, unidimensional approaches to trust agree that trust is of high importance whenever a person perceives conductional risk or dangers[19] in social interactions and makes herself vulnerable to other social actors. In this sense, trust manifests itself in a somewhat cognitive state "comprising the intention to accept vulnerability

17 The distinction between *unidimensional*, *two-dimensional*, and *transformational* approaches is taken from Lewicki et al.'s (2006) classification of trust approaches.

18 For a further exploration of the relation between trust and confidence, see Chapter 5.5.

19 For a further differentiation between the concepts of risk and danger, see Chapters 5.1–5.3.

based upon positive expectations of the intentions or behavior of another" (Rousseau et al., 1998, p. 395).

For many researchers in this area, the presence of vulnerability is considered an essential factor for any development of trust. Scholars like Mayer, Davis, and Schoorman (1995) have even related trust to the active "willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party" (p. 712). However, one could argue that people do not necessarily need to be aware of their trust, nor do they need to develop a distinct willingness to exhibit certain conduct toward their interactants. In many situations, they arguably just happen to trust, without any further motivation and strategy behind it—and without being particularly aware of specific risks or dangers.[20]

In that respect, unidimensional approaches often fail to capture the general complexity of trust (while some will include temporal dimensions, others will attribute the presence of trust only to particular moments); they usually tend to imply that trust will lead to specific singular outcomes such as "risk taking in a relationship" (1995, p. 715). Based on this specific criticism, some scholars hold the opinion that trust may lead not only to one unique outcome but potentially to two basic outcomes.

2.2.3 *Two-Dimensional Cognitive Approaches to Trust*

The main thought behind such *two-dimensional approaches* is the general idea of trust's bipolarity (cf. McKnight & Chervany, 2001). In the literature, this is mostly referred to as the difference between "trust" and "distrust"—although some scholars have used the concept of "mistrust"[21] instead (cf. Whaley, 2001). Usually, trust is associated with positive effects on social interactions, while

20 Apart from these shortcomings, Mayer et al. have highlighted the general significance of actor-related information and the "complex intrapersonal states associated with trust" (Lewicki et al., 2006, p. 992). Furthermore, they suggest that trust is impacted by the perception of actor-related information, such as the ability, benevolence, or integrity of an interactant (R. C. Mayer et al., 1995, p. 715). Hence, their framework supports the assumption that trust is based on informational exchanges and a communicational relation with an interactant.

21 While there is no clear distinction, *mistrust* is often used to refer to either a lack of trust or negative expectations, while distrust is defined in terms of a distinct sense of skepticism.

distrust (or mistrust) is associated with negative effects on interactions (cf. Van De Walle & Six, 2013).

Researchers have not agreed whether distrust is the opposite of trust or an entirely different type of social mechanism. For instance, Barber (1983) has argued that distrust can be defined through its separate functionality and must be considered a separate entity. Many approaches tend to "view trust and distrust as having the same components (cognition, affect, and intention) as the 'unidimensional' approach but treat [. . .] 'trust' and 'distrust' as separate dimensions" (Lewicki et al., 1998, 2006, p. 1002). In the model introduced by Lewicki et al. (1998), trust and distrust are explained in terms of two different types of expectations in social interactions:

> In our analysis we define trust in terms of confident positive expectations regarding another's conduct, and distrust in terms of confident negative expectations regarding another's conduct. We use the term "another's conduct" in a very specific, but encompassing, sense, addressing another's words, actions, and decisions (what another says and does and how he or she makes decisions). (Lewicki et al., 1998, p. 439)

According to the authors, both trust and distrust are continuously present in most interactions, and both can vary in intensity. A relationship featuring "high trust" and "low distrust" can be associated with high faith and confidence and with low skepticism or cynicism; a relationship featuring "low trust" and "high distrust" can be associated with passivity and hesitance and with high vigilance and cynicism; if both high trust and high distrust are present, relationships tend to be highly segmented and bounded; and if there are low or inactive trust and distrust, only limited interdependence is present in the relationship (cf. 1998, p. 445).

While this assumed ambiguity of trust in social relationships is worth further investigation, there are some general shortcomings to two-dimensional approaches to trust. Most importantly, they do not offer a completely new definition of trust and can be best understood as extensions of traditional unidimensional approaches.

Beyond these shortcomings, there may be a more general conceptual problem to two-dimensional approaches. Any theoretical distinction between trust and distrust could be greatly affected by the semantic distinctions that can be found in the colloquial use of these words. In everyday speech, these concepts are naturally opposed to each other. Yet researchers still do not know how trust is constituted and what the basic operating principle of trust is. Taking this into account, there could be several explanations for the perceived dichotomy between trust and distrust in our everyday experience: they could be two

outcomes of the same process or they could result from entirely different processes; they could also be two particularly extreme examples of a wider range of outcomes. For these reasons, two-dimensional approaches to trust tend to highlight only the potential dynamic range of trust but do not offer a better understanding of its emergence, constitution, or general "behavior."

2.2.4 *Transformational Cognitive Approaches to Trust*

To further investigate the complex role of trust in the continuation of social ties, some researchers have introduced approaches to trust that try to capture its changing role in the gradual development of social relationships. Such *transformational* approaches highlight the idea that trust allows a sense of relatedness to progress through different stages (cf. Lewicki et al., 2006). At their core, transformational approaches still address trust in terms of cognition but divide the trust into different stages. Because of that, transformational approaches focus on the same sense of growing familiarity that scholars like Luhmann or Schütz have previously detected in the context of social relationships (cf. Luhmann, 2001; Schütz, 1974). Researchers consider such familiarity necessary not only for intimate and personal relationships but also for business or more abstract relations (Boon & Holmes, 1996, as cited in Lewicki et al., 2006).

For this reason, transformational approaches demonstrate how an exploration of trust cannot be separated from a general exploration of the sense of relatedness or the experience that a social relationship is occurring—an idea that I have addressed in Chapter 1. These approaches help us to address how the experience or sense of social relationships changes over time and how it underlies complex bonding mechanisms. According to most researchers, the first stage of trust is thought to be based either on "deterrence" or "calculus" (cf. Dietz & Den Hartog, 2006, p. 563). Both concepts highlight the rational attitude with which new relationships can be approached, since most people are careful when they approach strangers or new contacts. They emphasize that trust is of specific value in the early stages of a perceived relationship, especially "when the potential costs of discontinuing the relationship or the likelihood of retributive action outweigh the short-term advantage of acting in a distrustful way" (D. Shapiro, Sheppard, & Cheraskin, 1992, as cited in Lewicki et al., 2006).

Shapiro and colleagues have further assumed that after these early stages, trust moves into a "knowledge-based" stage that is primarily defined by the mutually shared experience of interactants. Commenting on Shapiro et al.'s conceptualization of the knowledge-based stage, Lewicki et al. conclude that even if "the other is predictably unpredictable at times, repeated interactions

and multifaceted relationships will enhance understanding of the other" (Lewicki et al., 2006, p. 1007).

Finally, the knowledge-based stage is thought to be followed by an "identification-based" stage, which suggests that interactants know each other so well that their sense of reliability (especially regarding conductional routines) is high. In this scenario, both sides are thought to have synchronized their desires and intentions. A mutual understanding exists, so that "one can act for the other" and both "make decisions in each other's interest" (Lewicki et al., 2006, p. 1007). When trust is active at this stage, it is often referred to as "relational" trust, which highlights the degree of reliability, and even more, the level of dependability, in the process of bonding (cf. Kunnel & Quandt, 2016).

Transformational approaches reveal the gradual interconnectedness of how we predict, rely on, and depend on another party's conduct, and they allow scholars to consider trust as something that constitutes a positive shift in our experience of others. However, they are still somewhat limited in how precisely they capture trust as a dynamic entity. For one thing, they do not address trust as a single mechanism but mostly offer variations of trust that are thought to replace each other during the progress of a social relationship. Furthermore, the rational frameworks behind most transformational approaches (which place trust largely in the context of business relationships) fail to address any decrease or dynamic behavior of trust within the progress of social relationships.

2.2.5 *Process-Oriented Approaches to Trust*

Because cognitive approaches have undergone a further fragmentation in their conceptualization of trust (into, for example, two-dimensional or transformational approaches), some researchers have focused on more *process-oriented* views by suggesting that trust must still be considered a singular or unified process. In such approaches, trust is defined not only by cognition but also through social factors—which differentiates it from transformational approaches. As Guido Möllering (2013) has noted, "mental and social processes need to be reconnected eventually [for a full understanding of trust], but research differs across disciplines according to whether mental or social processes are focused on" (p. 3). In that sense, process-oriented approaches to trust can serve as theoretical accumulations of trust's general mental and social features and allow scholars to integrate different types of knowledge into unified frameworks:

> In various parts of the trust research community, a process approach has been advocated but not very often applied explicitly. There is a broad range of options for a "process view," [. . .] and they all promise important insights. Integration is possible if the

> core question remains one about "trusting" as the process of how people develop the preliminary outcome of "trust." (Möllering, 2013, p. 13)

In his literature review of process-oriented approaches to trust, Möllering has further identified five recurring types of process views of trust that have been represented in the literature (Möllering, 2013, pp. 5–10).

The first type of process view mainly focuses on how trust (or in his own words "trusting"[22]) is thought to accompany the progression of social relationships. In the tradition of transformational approaches (cf. Lewicki et al., 2006), scholars assume that trust owns a *temporal dimension* and needs to be continuously reproduced, since according to Möllering, "any trustful state of mind is preliminary and unfinished" (2013, p. 5). For this reason, trust is thought to change over time, as more or less cognitive effort is put into its formation.

Following the author, a second type of process view of trust is generally based on the idea that trust can be considered part of a specific kind of *information processing*, which does not happen solely within individual minds "but also in all kinds of social processes of communicating and sense-making [. . .] and is shaped by organizational and institutional contexts as well as social networks" (2013, p. 6). Such process views understand trust as a component of an ongoing communicational relation between social actors that will ultimately result in a degree of familiarity and influence the progress of social relationships over the course of time.

The third type of process view of trust Möllering identified focuses on how growing *knowledge* about another social actor seems to enhance the level of familiarity in any experience of a social relationship (cf. 2013, p. 7). In that sense, trust is understood as a process that is guided by increasing knowledge in the memory on the part of the interactants. This is significant not only for a perceived sense of familiarity but also for any rational evaluation of social interactions, which, according to Möllering, is usually based on previous experience.

The fourth type of process view Möllering identified focuses on this growing familiarity and intimacy within social relationships, which enables interactants to experience a sense of *shared identity* and adds a level of commitment and

22 Möllering has used the term *trusting* to address the process behind trust. For the sake of clarity, I will continue to refer to *trust* instead of trusting. Furthermore, I have paraphrased Möllering's findings instead of using his own classification of trusting as *continuing*, *processing*, *learning*, *becoming,* and *constituting*, as such terminology might be highly confusing in the context of this book.

agency. He further argues that "people are who they are because of whom they trust and who trusts them, and so the continuous need to work on trust makes 'trusting' a developmental project of the self that is never finished" (2013, p. 8). For that reason, process views of trust that highlight its role in an individual's identification with her interactant largely emphasize how individuals generally relate to their social environment.

Möllering concluded his review with a fifth type of process view that mainly focuses on the role of trust in *social structuration*. Quoting Gidden's theory of structuration (Giddens, 1990; cf. Joas, 1986) and Sztompka's sociological theory of trust (Sztompka, 1999), he suggested that such a perspective allows scholars to emphasize how commitment and agency impact the degree to which trust becomes a social practice between interactants—and how this will further affect the structuring of organizations and societies in general. According to the author, this further implies "that *how* people trust is a noteworthy element in how social systems are constituted and how they work and develop. At the same time, when people start to trust differently, they start to change the system that has been the reference point for their trust" (2013, p. 10).

In many ways, Möllering's extensive review of process-oriented approaches to trust summarizes the current state of knowledge about trust. Each process view presents a rather complex picture of how trust is accompanied by both mental and social factors—which have seldom been brought together in the traditional research on trust. However, such approaches usually face the difficulty of aggregating both psychological and social dimensions into one convincing framework. In the case of Möllering's classification, each type of process view reads like a variation of the others; they cannot be entirely separated. Because the genesis of process-oriented approaches usually lies in the combination and induction of different existing theories, they often fail to produce a new or emergent understanding of trust.

For this reason, they do not offer a whole new perspective but mostly present different interrelated mental and social components of trust. What they lack is an epistemological foundation, a shared operating principle, on whose basis these components can be integrated into a more general theory that is able to include both mental and social aspects of trust. Because of this, process-oriented approaches can provide us with only a general sense of the dynamic formation and behavior of trust, but fail to become more specific about it.

2.2.6 *Network Approaches to Trust*

As the social aspects of trust have become more evident in the overall scientific discourse, more scholars have moved toward exploring trust according to its social impact. One framework that has proven especially valuable is the major role trust plays in the structuring of social networks (cf. Golbeck, 2013). While such network approaches cannot provide a better understanding of the mental aspects of trust, they allow researchers to investigate the general characteristics of trust in communication processes and social interactions. For this reason, network approaches to trust have become increasingly relevant in the context of digital interactions. Following DuBois, Golbeck, and Srinivasan (2011), trust seems increasingly relevant in online interactions, as it is often part of the user's default mode in such interactions.

In their extensive literature review of network[23] approaches to trust (particularly those that focus on online social networks), Sherchan et al. (2013) came to the conclusion that trust as a process can be defined through nine common properties that have reoccurred in the literature.

First, the authors suggested that trust is "context-specific," arguing that in parts of the literature, trust was usually linked to a given situation, expectation, or outcome.[24]

Second, the authors argued that trust is "dynamic" and increases or decreases with new experiences, interactions, or observations.

Third, the literature suggested that trust is "propagative," indicating that information relevant to trust could be "passed from one member to another in a social network, creating trust chains" (2013, pp. 8–9).

Fourth and fifth, the literature described trust as "nontransitive" and "composable," suggesting that if one person trusts two other interactants, it

23 According to Sherchan and colleagues, the concept of social networks was first introduced by J.A. Barnes, "who describes them as connected graphs where nodes represent entities and edges their interdependencies" (Sherchan et al., 2013, p. 1). In this sense, a social network is a system that consists, in its entirety, of social actors and their relations. Consequently, such a framework features a systemic structure that seems most fitting when we want to analyze social phenomena that affect an individual's perception such as trust.

24 As I have suggested, this assumption can be challenged to a degree, especially if we assume that trust is a general property of human relationships. Instead, it seems more appropriate to assume that trust becomes most salient in specific situations that feature a heightened sense of danger or opportunity, but is generally "switched on" in the experience of social relationships.

could not be inferred that those two other interactants necessarily trust each other. Trust could be based on the testimony of third parties, such as other members of the social network or other information sources, such as reputational references. Based on the information provided by a third party, individuals could connect with other social actors if they had the feeling that they were directly affected by them.

Sixth, and completely in line with the assumptions presented in the introduction, the literature mostly defined trust as "subjective." Even if trust affects social dimensions of human interaction, the information processing itself remains highly subjective.

Seventh, and similar to propositions made by scholars like Coleman (1982), trust was understood as something that relies on "asymmetry." If one person trusts another, this does not necessarily imply that the other person trusts them back. Like Coleman and others, Sherchan et al. assumed that asymmetry offers a "special case for personalization. Asymmetry occur[s] because of differences in peoples' perceptions, opinions, beliefs, and expectations" (2013, p. 9).

Eighth, trust was defined as "self-reinforcing." It was generally assumed that "members of a network act positively with other members whom they trust" (2013, p. 9). Ninth and last, the authors suggested that the mutual bonding associated with trust generally takes "a long time to build, but a single high-impact event [could] [. . .] destroy it completely" (2013, p. 10). Consequently, trust could be considered "event-sensitive," as certain experiences or new information could change the way individuals trusted their interactants.

Summing up, Sherchan et al.'s nine properties allow us to explore trust from a broader perspective and encourage the idea that trust follows a distinct operating principle. On a basic level, some of the properties revealed in their review (such as composability and nontransitivity) are hard to distinguish from the way social networks are more generally impacted by the general experience of social relationships (cf. Chapter 1). In this regard, it seems difficult to define them exclusively as features of trust. Furthermore, the literature has mostly highlighted positive outcomes of trust in social networks; what it lacks is a more nuanced idea of trust that also includes the possibility of negative outcomes.

Nevertheless, there are a few advantages to network approaches, which can provide a better understanding of how trust "feeds" itself on information as part of communicational practices. Without the exchange of information—it can be deduced—trust would not play a significant role in human communication networks. On the basis of information processing, trust offers individuals a flexible value system for their complex social environment—mainly by revealing whom they should or should not be relating to. For this reason,

network approaches to trust give us a better sense of the "behavior" of trust in social ties and networks, even if they cannot offer particularly new insights on its effect on the cognition and behavior of individuals.

2.3 *Trust through the Framework of Human Information Processing*

The selection of different approaches to trust that I have presented so far primarily highlight different facets of trust rather than addressing the phenomenon as a whole. As could be seen, the scientific discourse on trust increasingly relies on secondary literature whose primary purpose is to synthesize the broad variety of approaches. Trust has been defined and conceptualized in so many ways that it seems impractical to review all these definitions, as their reference points and epistemologies differ depending on their research tradition. For some scholars, trust results in a simple state, while for others, it can have multiple outcomes. Other scholars attribute to trust not only different outcomes but also various stages within the experience of relationships. What they all agree on is that trust is highly important for our ability to build social relationships with other actors and that it influences our expectations of these actors and our confidence in those relationships. As we have seen, such confidence not only impacts individual behavior but is also thought to affect larger human communication networks.

In the literature presented in this chapter, trust has been defined as a complex social mechanism that impacts both mental and social states. Different scientific approaches to trust have touched many facets of the phenomenon. Following Bernd Blöbaum,

> the growing body of literature on trust has generated numerous findings, both on the level of interpersonal trust and societal trust. There is no doubt about the relevance of trust on all levels: from trust in personal relationships and trust in and among organisations to trust as a social glue in contemporary society. (Blöbaum, 2014, p. 14)

A closer examination of the research literature has shown that it might not be entirely satisfactory to define trust as either mental or social; neither is it convincing to regard it as a simple "state."

Nonetheless, almost all approaches to trust share certain assumptions. One of these is the idea that trust is based on an exchange of information, mainly because we would not be able to trust another social actor if we did not process information about her. This becomes even more evident if we consider that individuals can trust social actors based *only* on information, without ever having

interacted with them directly. As scholars like Luhmann (1979) have suggested, a deeper understanding of the basic mechanics behind human communication can help us to better understand why trust might be operating between mental and social states. Apparently, based on the literature review presented in this chapter, the formation of trust can be located somewhere in the domain of human information processing and can be further understood as the result of a communicational relation.

Apart from this, Harris and Koenig (2006) have suggested that trust can be considered an essential part of the mental development of human beings, who must learn to build relationships and process information from different (more or less credible) sources. In that sense, each new interactant marks a new reference point for an individual's trust. In many ways, the processing of a communicational relation toward other social interactants is natural and rather fundamental to the way people experience their social environment; it allows them to rely on—and relate to—other social actors from early childhood on. Therefore, it might be helpful to consider trust as more than a valuable addition to social interactions. What if trust is an essential part of how people process other social actors—a key to how they make sense of their (social) environment?

Following these questions, I propose that the specific idea of a communicational relation as the foundation of trust is almost identical to the idea that individuals experience the presence of a social relationship with their interactants as part of their information processing (cf. Chapter 1). It makes sense to regard trust as tied to the same communicational relation and information flow that is responsible for the experience of a social relationship. Both trust and the experience of social relationships are part of how our mind processes our social environment, and both provide social ties with a certain meaning and sense of relatedness. Furthermore, both are thought to highly impact the fate of human communication networks on a larger scale, since they both contribute to the interconnectivity of individuals.

With this in mind, it seems possible to further investigate trust from a communication-centric point-of-view, one that considers human information processing the main driving force behind its emergence and formation. To do this, it will be necessary to provide, with the help of communication theory, an epistemological foundation. The main interest of communication theory is to disclose the basic operating principles behind human communication and information processing. As François Cooren has noted, such a communication-centric perspective can be used to explain a number of things:

> We live in a globalized world of new medias, social networks, emerging forms of journalism, and new designs of our information environment[.] [. . .] But beyond this new sociotechnological reality, I could not help but think that putting communication at the center could also be interpreted as an invitation to think *communicatively* about the world, that is, to affirm the specificity and originality of our field vis-a'-vis its sister disciplines, whether we think of anthropology, psychology, sociology, or even philosophy. (Cooren, 2012, p. 1)

The construction of a particular communication theory is a specific type of creative problem solving and often requires what Hagen, Frey, and Koch (2015) have referred to as "systematic speculation"[25] (p. 130). Following the authors, such speculation usually includes various kinds of research literature, empirical data, subjective or scientific theories, personal experience, or theoretical structures. Furthermore, its interdisciplinary nature can allow us to address and connect the shared boundaries of the different traditions dealing with trust and to integrate the knowledge of other disciplines (cf. Karmasin, Rath, & Thomaß, 2014). In the context of this book, it allows us to touch upon a variety of issues related to trust and the experiencing of social relationships, such as human memory (cf. Chapter 4) and the role of confidence (cf. Chapter 5) in social interactions. For all of these reasons, the goal of this book is to work as an interdisciplinary link to a cross-disciplinary field in which "separate disciplines [are considered] most distinctive from each other by virtue of their special discipline-bound analytical problems" (Dubin, 1969, p. 245).

In this particular context, the concept of communication refers not only to the things people say, write, experience, or perceive but may also include the transfer of ideas, emotions, reflections, epistemic beliefs, cultures, or knowledge (cf. Cooren, 2012, para. 12). These are all elements of how individuals process and exchange information and construct their realities toward other actors. Communication theory, then, can help us to locate trust in the realms of human information exchange and address the specific ways individuals process their interactants based on these information flows. Above all, it allows us to rethink the formation and emergence of trust as a result of the exchange and transfer of information from beginning to end.

Starting with the beginning, Chapter 3 will address the basic stimulus to trust and the general experiencing of social relationships: the processing of an interactant's "social presence."

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25 Translated from the German expression *systematische Spekulation*.

3 *Social Presence*
Stimulus for the Experience of Others

The general idea that trust is not a particularly new issue, and in fact might be as old as the general human experience of social relationships, presents a challenge for anyone who wants to emphasize the more contemporary relevance of trust. The experience of a social relationship, or sense of relatedness, and the presence of trust may be part of any basic emotional attachment that individuals experience toward other actors on both the physical and emotional levels. Such attachment might come with distinct benefits, such as the avoidance of loneliness and social isolation (cf. Holt-Lunstad, Smith, Baker, Harris, & Stephenson, 2015) and the forming of social groups and innovative social structures, but also with distinct disadvantages, like the estrangement of individuals, the ostracizing of social actors, or the polarization between groups.

Chapter 2 showed that trust research has become a rather popular subsegment in the overall scientific exploration of social relationships. While not every scholar will agree that trust is a functional component of the experience of social relationships, most scientific approaches in this area share the assumption that trust is linked to something like a communicational relation between an individual and his interactant and to a growing (or declining) subjective sense of shared identity toward another actor over time. For this reason, it seems possible to approach both trust and the experience of social relationships through a communication-centric perspective that focuses on the information flow between two interactants and further depicts the specific communicational relation between these interactants.

While various media and distribution channels may affect such relations, the basic operating principle is likely to remain the same. In regard to the assumptions presented in Chapter 1, the salience of trust in the digital age is not so much a direct result of the emergence of digital communication structures themselves as it is a fundamental component of their emerging social resonance spaces. A preliminary conclusion at this point is that individuals are *always* potentially capable of experiencing a social relationship as long as they receive information from (or about) another actor, regardless of the channel. The exchange of information itself is more relevant than the technology, medium, or communication services behind it.

To present such a shift toward a communication-centric perspective on trust and the experience of a social relationship, one that frames trust as reliant on the exchange of information, a certain strategy is required: We need to first discuss what type of information human beings experience whenever they sense relatedness before we can explore how they process these relationships. This means that we need to first deal with the general informational source of, and stimulus for, the individual experience of others (a concept that I will later refer to as an interactant's social presence) and highlight how individuals process their interactants on the basis of information. Such a perspective allows us to speculate further on which types of information are responsible for the experiencing of social relationships and the emergence of trust.

Through an analysis of different types of information flows, we can access the general experience of social relationships from a unified perspective and highlight how individuals process information about their interactants, as well as how they experience a sense of relatedness toward and ultimately become confident in them.

3.1 *Traditional Views of the Social Environment as a Social Universe*

From a theoretical perspective, the experience of a social relationship (that is, the experience of being in a social relationship, or the sense of relatedness), is often considered to be a helpful attribute of social interactions, but mostly it is in addition to or as a result of the interaction itself (cf. Lewicki et al., 2006, pp. 1008–1009). We have also seen this in the context of trust, which is often considered a quality that can be added to an interaction—and not an essential part of it (cf. Chapter 2). Behind this common logic lies the assumption that each individual develops general behavioral patterns in the course of his life; these patterns may be shaped not only by personal dispositions, motivations, and beliefs but also by one's experience (cf. Reckwitz, 2003). It is then assumed that an individual will respond to his interactions and his general social environment based on this given psychological set-up.

All of this illustrates one essential supposition (or belief system) that appears to be very common in the literature: individuals are closed systems who generally react to a similarly closed environment. This view suggests that an individual's general psychological set-up will determine his behavior and interaction with other social actors who, though they have individual traits, are still representatives of one and the same external universe. Although familiarity

with an interactant is thought to improve the course of an interaction, seldom is an implicit sense of relatedness with each other on the part of the interactants recognized as a driving force behind social interactions.

The scientific interest in trust addresses exactly this gap, as scholars are interested in how individuals experience a sense of intersubjectivity and how they become aware of double contingency as part of their interactions with other social actors (cf. Chapter 2). In the psychological research, one common way to include this mental interaction between actors is expressed in the concept of *theory of mind*, which asserts that individuals may attribute particular mental states (such as beliefs, intentions, or desires) to other social actors (cf. Goldman, 2012; Perner, 1991). In other words, individuals are thought to include their idea of what someone else's mental processes are in the cognition that determines their own behavior. If, for instance, an individual assumes that his interactant has little expertise regarding a subject they are discussing, he might not want to rely any longer on his testimony.

The concept of theory of mind offers scholars a framework to investigate social bonding mechanisms and double contingency more explicitly. Nevertheless, such approaches still support a perspective in which an individual's psychological set-up is the dominant factor in determining his interaction with his social universe. Even if individuals attribute various mental states to the other social actors, their own psychology is still founded on the same set-up whenever they approach these attributions; they are still seen as internal closed systems in continuous interaction with an external closed social universe (see Fig. 3.1). They might differ in their behavior (e.g., toward family members versus colleagues at work), but this behavior is still the result of a consistent internal system.

While such a perspective is of great value for the exploration of social cognition and behavior, its potential seems limited whenever we address the subject of social relationships (and ultimately the issue of trust), which, according to Chapter 1, is characterized by a sense of intersubjectivity and relatedness as well as the dynamic exchange of information. Because both intersubjectivity and relatedness are a result of a communicational relation between an individual and his interactant, they will—to some extent—rely on the implicit and often automated reception of the interactant's input, too, and not just on the individual's contributions. Thus, we cannot speak about someone's trust if we do not include the presence of the trustee and the information flow between both actors. That is to say, trust is determined not only by what a trustor experiences and perceives about the other person and his theory of mind, it is equally dependent on what the trustee communicates and how the trustor implicitly reacts and further reciprocates.

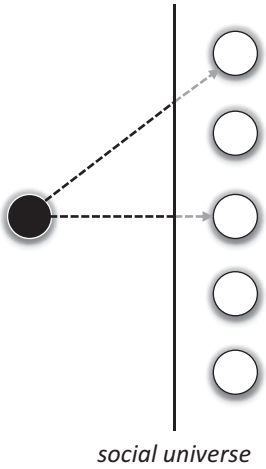

Fig. 3.1. The social environment as a social universe. The concept of a social universe is characterized by the idea that individuals (*black node*s) process their interactants (*white nodes*) similarly (but with different attributions), as they are all part of the same environment.

Considering all of this, it might be more helpful to think of our social environment as a *social multiverse* (see Fig. 3.2) if we want to better understand differences in how relationships are experienced. It seems more plausible that, instead of interacting with a single closed social universe, human beings encounter each experienced social relationship as an independent unit. On a conceptual level, the idea of a social multiverse is not different from the idea of a multiverse as presented in the many-world interpretation of quantum mechanics, as both are ultimately determined by information flow (D. Deutsch, 2002). From this perspective, each new social relationship and connection opens up a new universe—a new reality based on specific information—and is part of how we relate to the world. Moreover, each experienced social relationship features its own rules and may result from a distinct body of information peculiar to each interactant, including his individual history, contingencies, and behavioral routines. As suggested in Chapter 2, this actor-specificity seems essential in any exploration of trust and the experience of social relationships.

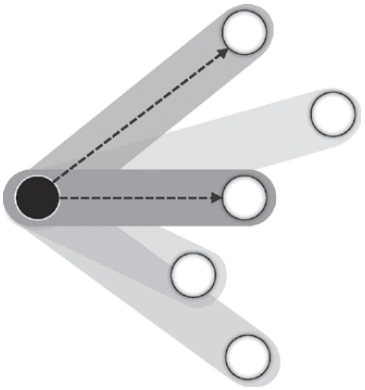

Fig. 3.2. The social environment as a social multiverse. The concept of a social multiverse allows us to define each individually sensed or experienced social relationship as a distinct universe (*gray areas*) that can differ from others in scope and intensity.

3.2 *The Social Environment as a Social Multiverse*

The shift to a perspective that favors a social multiverse might take a little getting used to. However, it puts the experience of social relationships first and can help us approach what we know about the fabric of social relatedness with fresh eyes. The idea of a social multiverse can shed new light on the distinct role of trust in processing each singularly experienced relationship within a communication network. As most of us know from our experience, any sense of relatedness can be very different (and distinct) depending on the interactant. For this reason, the experience of social relationships should not be just a secondary consideration in the exploration of trust. We should embrace an epistemological framework in which each social relationship experienced opens the door to a complex but very specific universe.

So, what are the direct implications of a social multiverse? First and most importantly, such an approach puts the flow and processing of information front and center. It suggests that the human brain is capable of processing multiple social relationships as singular universes that will produce individual realities

on the basis of specific information sources. Second, it gives us an opportunity to approach the experience of social relationships and the impact of trust with a continuous, information-based logic. Before we can deal with the concrete realities of the relationships themselves, we need to first locate the information sources on which their experience is based.

As I have argued, the experience of social relationships is not limited to intimate long-term relationships but is a more general aspect of how individuals make sense of their environment. Human beings also sense relatedness in weaker ties or even brief encounters.

An example will illustrate this. Imagine you have a new neighbor whom you have met on the street three times so far. Depending on your ability to connect these three incidents to a new reality, you will be able to experience a social relationship to him. Or, you might process these encounters as three independent events, or not even recognize your neighbor at all and fail to make any connection. In this case, a social relationship might not be part of your experience. However, if you are making a connection and developing a sense of emotional bonding with (or alienation from) him, we can ask where such an experience originates. What is the source of the information on which it is based? In order to find the answer to that question, we need to go back to the three interactions that have shaped your sense of relatedness to your neighbor.

Many traditional approaches to social relationships would assume that the experience of the relationship is based on cognitive observation of these three interactions. As our working memory processes our encounters with the neighbor, our mind evaluates our positive and negative experiences with him, giving us a perspective on his character traits and behavior. If he is continuously friendly, we will conclude that he is a nice person and look forward to meeting him next time. If he is constantly grumpy, we will probably steer clear of him next time. If he has been friendly on two occasions and grumpy on the third, we might conclude that he was just having a bad day.

These examples represent a rather rational approach to social experience, in which individuals make reasonable assumptions based on reflective observations and evaluations in which they try to figure out their interactant's beliefs and intentions. However, rational evaluations cannot fully explain why we feel connected to (or disconnected from) social actors. Apart from rational evaluation, there must be a second layer to social experience—another information source that is responsible for connecting us emotionally to other social actors and "trusting" (or "distrusting") them.

To find this information source, we must take a closer look at the actual experience of interaction. Instead of highlighting our observations and evaluations of the interaction, we must focus on what exactly is communicated in the timespan of the interaction. There might be a whole range of information, such as the interactant's looks, smell, words, and expressed thoughts, as well as his actual conduct or affiliation with others. Although individuals might not be consciously aware of this kind of information during social interactions, their minds may nevertheless process such information. In many situations, they may become consciously aware afterward of certain details of the interaction (for example, a phrase that was spoken, an article of clothing, or an individual's glance or facial expression). These might register a moment or even weeks later.

Going back to the example of our neighbor, we might have a distinct positive (or negative) impression of him after our three encounters. We process such impressions with every interaction without necessarily reflecting on them. Only after thinking about them for a while might we conclude that the neighbor reminds us of someone we happen to like (or dislike), or that he has a way of talking that slightly comforts (or discomforts) us. Though unaware of this at the time of the interaction, we experience a sense of relatedness (or alienation). Because not all thought processes are available to introspection (Dosher & Sperling, 1998, p. 202), we might not be entirely able to articulate this experience.

Thus, because of the limited timeframe of the interaction, we processed information about our interactant that was not instantly available to our rational cognition or conscious mind. This processing of information resulted from our interactional experience with another social actor, from being with that actor at the same time and in the same place. We have processed our experience of the general presence of the interactant in that situation as a direct result of the information flow between us.

In accordance with the existing literature, I refer to this overall presence during social interactions as the interactant's *social presence*. The notion of social presence allows us to investigate how individuals process social ties in their communication networks on a very basic level. As an information source and stimulus to the awareness of others, social presence allows us to ask where the experience of social relationships originates and exactly where trust is constituted.

3.3 *Social Presence and Our Implicit Awareness of Others*

The term s*ocial presence* originated in the research field of computer-mediated communication. In the literature, social presence is most commonly understood to mean a sense of the spatial copresence of other actors:

> Over the course of mediated interaction, social presence may include increasing sense of the accessibility of the other, perceived as increasing psychological and behavioral engagement. Psychologically the user may have a greater sense of access to intentional, cognitive, or affective states of the other. (Biocca & Harms, 2002, p. 11).

Even though the concept of social presence focuses primarily on "mediated interaction only" (Biocca & Harms, 2002, p. 11), it is possible to present it from a different angle and consider it a basic part of any social interaction.

When Short, Williams, and Christie (1976) introduced the idea of social presence, they highlighted the experience of something like human warmth in conversations that were based entirely on the use of telecommunications. They realized that recipients were registering the copresence of their interactants, even when the interaction was based only on computer-mediated text messages. Based on this perception, it was possible for them to evaluate the immediacy and intimacy of their communication and the overall experienced presence of the interactant. Subsequently, they referred to social presence as "the degree of salience of the other person in a mediated communication and the consequent salience of their interpersonal interactions" (Short et al., 1976, p. 65).

With their definition of social presence, Short et al. could explore how different communication technologies generated different ideas of the *other side* in mediated interactions. Furthermore, they could argue that interactants experience the presence of each other even in computer-mediated interactions that feature only a limited number of information exchanges. In such interactions, social presence is thought to produce the illusion of spatial copresence and temporal synchronicity; it is part of how we make sense of the interaction and process the mediated content. For instance, if we are exchanging emails to keep in touch with a friend, we are communicating from two different places and at two different times, yet when reading his email, we may have the impression that our friend is talking directly to us.

The variety of conceptualizations and definitions in the literature has made it very difficult to grasp what constitutes social presence. Most approaches have in common the idea that almost any type of mediated communication (including radio and television transmissions) can communicate the social presence of an interactant. As Walter (2015) has shown, social presence can be at play even when the other side is an artificial online agent, and in fact should be

considered highly essential for establishing trust in online environments. Apart from these commonalities, scholars have not agreed on whether social presence is an attribute of the technology itself or an attribute of the interactants who are communicating. According to Rettie (2003), social presence manifests itself in a particular awareness of another person in interactions that are based on mediated communication, especially if the mediation itself provides only limited information about the other side. However, Rettie has strongly suggested that the concept of social presence itself is not completely clear, "despite numerous alternative definitions" (2003, p. 1).

In the context of trust and the overall experience of social relationships, it makes more sense to think of social presence as part of any social interaction—something that is also at play when we experience the copresence of an interactant in face-to-face interactions and a direct result of the information flow between interactants. While social presence is usually understood more as an attribute of the medium in Short and colleagues' original definition, other scholars have articulated the idea that social presence must be understood in a broader sense as how individuals make sense of their interactants. To engage in any social interaction, they need to process information about their interactants—whether they communicate through media or are directly copresent. This position implies that social presence is a "property of people, not of technologies" (Biocca & Harms, 2002, p. 11). To support this idea, Gunawardena (1995, p. 163) has suggested that social presence can be explained by how the "mind produces mental models that explain what the individual has perceived. These models are then used to explain, predict, or infer phenomena in the real world" (p. 163). For these reasons, social presence should be considered a necessary component of how an individual processes information about his interactant. It is not the interactant himself but *the stimulus that the individual experiences about his presence* that allows an individual to comprehend their interactions in a very specific way.

3.4 *Social Presence in the Context of Information Processing*

The shift from a medium-centric perspective to one that frames social presence in terms of how individuals process each other in social interactions can also help us address certain aspects of the original social presence theory that have become problematic. For instance, traditional social presence theory assumes that some communication channels produce a greater degree of social presence than others.

Imagine two people communicating with the use of video-chat software. Now imagine the same two people talking on the phone. Traditional social presence theory holds that there is a greater degree of social presence in the video chat because of the additional visual information and media richness (cf. Lowenthal, 2009, p. 9). However, such generalizations are difficult to make, as it is hard to predict how individuals will precisely process information in such scenarios. For some individuals, the video chat might be more intimate. For others, the phone call might be. For them, while the video chat may provide more visual information, it might also add a level of formality. Factors such as the frequency of use of the channel or the level of entropy of information could further impact the processing of social presence (cf. Pierce, 1965, Chapter 5).

As a result, the processing of an interactant's social presence can be understood as the basic stimulus to how individuals process *any* social interaction. Whether they engage in a face-to-face conversation or online chat, whether the duration of the interaction is short or long, individuals will always process a certain degree of social presence and a feeling of "human warmth" (or lack of it) from an interactant. Depending on the technology and interface, the level of abstraction might be individually experienced as higher or lower. With technological developments like live-streaming or virtual reality, mediated interactions might even come close to real-life interactions in terms of information richness.

The best way to imagine social presence is to understand it as an information spectrum about an interactant that implicitly—and as part of an automatism—leaves an "imprint" on our memory when we experience it.[26] This imprint can be further accessed by our cognition—or else it will remain unused until it is forgotten and disappears from our long-term memory (cf. Chapter 4). It allows people to process information about an interactant and recognize co-presence and reciprocity during social interactions. This might be the case even when the interactant is silent. Following Baran (2013), "[i]n most communication applications, silence is the *usual* message" (p. 204).[27] What is suggested by this statement is that communication includes not only exchanges of information that are initiated through the active conduct of a participant but also those

26 I will further address the role of long-term memory for trust and the experience of social relationships in Chapters 4–6.

27 While this is a very technical way of approaching communication, the same might be true for face-to-face interactions.

times in which he stays silent and does not actively engage. In a telephone call, we process the social presence of our interactant not just when he is talking but also when he is silent. Subsequently, that silence, like the words themselves, will also leave a type of imprint on our memory and, following Baran, is considered by some scholars to be the real foundation of any type of communication, as it can be understood as the simplest type of information flow.

Whether the experience of social presence through mediated communication channels is a natural response or part of an adaptive process has remained an open question in the literature. Increasingly, though, mediated communication channels can provide us with the feeling that the interactant is close and present as a stimulus. Nowhere is this more visible than in the sensory space of social media, in which a simple check mark can signify that the interactant is present and has read your digital message (cf. Reysen, Lloyd, Katzarska-Miller, Lemker, & Foss, 2010). Networking services connect users as "friends" and allow them to become parts of "communities" and to "like" or "react" to each other's postings and address social factors such as the users' shared "connections" or "interests" (cf. Chapter 1). Because social skeuomorphs[28] imitate the design of real-life social interactions, they help users transition into the resonance spaces of digital environments. Through the mindset of social relationships, the users can then process information in immediate and efficient ways. However, this is nothing particularly new, as traditional media (such as word-of-mouth, television, radio, and art and literature) have always provided their audiences with the social presences of other actors.

The framework of social presence also allows us to explain how the experience of parasocial relationships can be as emotionally intense and immediate as real-life interactions, apart from their unidirectionality (cf. Chapter 1). On a more fundamental level, we can assume that the processing of social presence

28 According to the Oxford Dictionary, a *skeuomorph* is "an object or feature which imitates the design of a similar artifact made from another material" ("skeuomporph," 2016). In the context of computing, a skeuomorph is further referred to as "an element of a graphical user interface which mimics a physical object." For instance, an online bookstore could be designed in a way that the electronic books appear on what looks like an actual bookshelf on a computer display. Considering this, skeuomorphs are of great significance for the user's *transition* into digitalized environments. They function as links between the old and the new, allowing users to get used to a new type of communication in a transitioning phase. The concept of a *social* skeuomorph, then, addresses the idea that many software interfaces feature elements that imitate human social practices that we usually associate with analogue social interactions.

might be essential to the experience of a social multiverse, since it is the main information source and stimulus to the experience of others. Consequently, it makes sense to consider social presence the primary source and stimulus if we want to further explore the experience of social relationships and trust. Without social presence and a feeling of interaction and immediacy, we could not engage with others emotionally and relate to them. Instead, we would just "observe" them.

3.5 *The Processing of Social Presence in Direct Copresence*

Before we can discuss the role of social presence in mediated interactions, it is necessary to first consider interactions that happen in *direct copresence*. In direct, face-to-face interactions, the actual copresence of the interactant usually imposes a high level of social presence.[29] According to Goffman (1963), copresence "renders persons uniquely accessible, available and subject to another" (p. 22). In this sense, copresence implies the experience of a "psychological connection to and with another [interaction partner]," requiring that "interactants feel they [are] able to perceive their interaction partner and that their interaction partner actively perceive[s] them" (Nowak & Biocca, 2003, p. 482). Sundararajan and colleagues considered face-to-face communication a medium[30] that usually features high information richness and can include different directionalities:

> [R]icher communication media, such as face-to-face communication, have two important properties that help facilitate information transfers: the ability to transmit complex and tacit information and the ability to foster trust between actors. Face-to-face communication is therefore thought to have the greatest capacity to transfer complex knowledge. (Sundararajan et al., 2013, p. 890)

What is evident here is that face-to-face interactions are thought to inherently feature a high level of immediacy; this can result in a feeling of togetherness and the idea of sharing a mutual moment, or conversely, it can result in a sense of alertness and alienation. Let me use an example to illustrate this.

Imagine that after a long day of work you have missed the last train and decide to walk home. It is not that long of a walk, but you need to pass an area

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29 Parts of this section are taken from a previous article on *relational trust* by Kunnel and Quandt (Kunnel & Quandt, 2016) and used with permission.

30 While the notion of face-to-face communication as another medium might seem highly abstract, it allows the depiction of interactions in direct copresence as simply a different way of communicating with other actors.

that has recently become known for its high crime rate. You are walking through a dark, empty alley. Suddenly, you sense that someone is walking behind you: a tall, sinister-looking man. For a few seconds, you are alarmed and frightened—until you see the man stopping at a house. He passes the front yard and opens the door, and you realize that it is *his* house. He just has arrived home.

We can assume that, if only for a few seconds, you have processed a social interaction with the man, even though he might not have been aware of it. Furthermore, we can assume that during this interaction and because of some type of information flow, the processing of the man's social presence has left an 'imprint' on your brain's memory. The social presence was determined not only by his close proximity (his actual copresence) but also by the impression you had that he was potentially dangerous and could have hurt you. For a short period, your brain devoted high attention to processing the man's social presence.

Let us take this example one step further and imagine that a few days later, you are reminded of the incident and remember the whole situation. You cognitively access the imprint in your memory. Even though you are aware that the man was harmless (which is part of your rational evaluation of the situation), the chances are high that these memories might trigger just a slight feeling of anxiety. Somehow, the processing of social presence during your interaction is still available even a few days later and can be accessed after the actual incident has happened.

The example presented here should illustrate that social presence must be considered a natural stimulus to how people implicitly capture, process, and memorize their social interactions. If we take it seriously, we must understand that social presence can be processed as part of any social interaction—and as something that may ultimately enable people to emotionally reciprocate and experience social relationships as part of interactions and their information flow.

3.6 *The Processing of Social Presence in Mediated Interactions*

So far, I have addressed interactions that are characterized by direct copresence (see Fig. 3.3). However, the logic behind the processing of social presence can also be applied to *mediated interactions*. While it is often assumed that mediated interactions might lack certain information due to their restrictions, this does not mean that individuals necessarily experience lower levels of social presence than they do in face-to-face interactions. One person might experience a

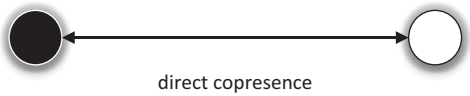

Fig. 3.3. Social presence in direct copresence. Both an individual (*black node*) and his interactant (*white node*) can directly experience and interact with each other (*two-sided arrow*).

greater degree of social presence in an online chat than another person would in a face-to-face conversation. A smiley icon exchanged online might have a more immediate effect than a real smile—depending on how an individual processes the information.

As modern human communication networks rely on more complex communication structures and more sophisticated use of media, they have been increasingly impacted by the extension of time and space in the way individuals communicate with each other. The key to understanding this is what Giddens (1990) has referred to as *disembedding*. Contrary to premodern societies, in which individuals have mostly interacted with fellow villagers and within environments that are marked by strong social ties, such as family members and friends, modern societies rely more heavily on weaker social ties in order to achieve their dynamic structuration. Individuals need to be capable of interacting with a large variety of different social actors—often from different locations and in different time zones. These ties no longer rely on continuity and copresence but must be accessed and maintained. The development of disembedding mechanisms "'lift[s] out' social activity from localized contexts, reorganizing social relations across large time-space distances" (1990, p. 53).

The use of communication media, then, can be considered essential for the maintenance of such disembedded social ties. Individuals can receive information about public actors (such as politicians) with the help of traditional mass media, or they can use modern information and communication technologies to interact with other social actors directly. As a consequence, and as a way to improve social orientation, they might develop an urge to "re-embed" these social relations mentally. The processing of social presence allows individuals to process mediated interactions just as they do real social interactions, by adding a sense of spatial and temporal synchronicity. For example, it makes it possible to process the presence of a sender when reading an email or to process the presence of a friend in a video-chat.

All of this should not suggest that every human being automatically experiences a degree of social presence as part of mediated interactions. It only illustrates that people are naturally equipped to experience mediated social presences and to process mediated interactions much as they would process face-to-face interactions and that this leaves an imprint on the human brain similar to that left by direct copresence.

A tentative conclusion at this point would be that because both types of interactions leave imprints on the memory, individuals can rely on mediated social presences as sources for their experiences of social relationships in a way that is similar to the way they rely on face-to-face interactions. It allows them to process mediated social interactions as more than observations and memorize them as shared experiences—which seems increasingly necessary in digital environments. With the help of online communication, users can process each other's social presences through chats, status updates, newsfeeds, or individual posts. Furthermore, individuals might converge social presences from different channels (such as a combination of face-to-face conversations and text messages) into one unified presence of the interactant. While social presences that are processed with the help of digital communication channels are built on the same mental operating principle as social presences that are processed in copresence, we can assume that—depending on the technology—each channel will offer a different spectrum and range of information.

To address different communicational foundations, it seems helpful to look at the potential *directionalities* of communication channels and explore how they will impact the information flow between actors and the processing of an interactant's social presence. This strategy will also help us to avoid linking the individual experience of social presences to the use of specific technologies, media, or communication services. As I have previously noted, we cannot predict how a particular technology or service will impact the individual experience of social presence. Nonetheless, we can look at the different ways (actor-related) information is distributed to an individual—and further experienced and processed as social presence. Such a strategy allows us to explore how individuals make sense of their social ties, attribute meaning to them, and experience a sense of connectedness based on information flows between them and other actors. While some information flows are based on *unidirectional* communication channels, others are based on *bidirectional* or even *multidirectional* communication channels within a dyadic tie. Depending on the directionality of these channels, we might experience the social presence of an interactant in distinguishable ways—and with different consequences.

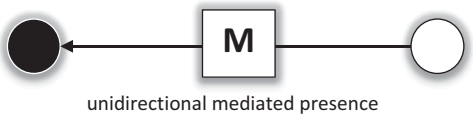

Fig. 3.4. Social presence in unidirectional ties. An individual (*black node*) processes an interactant's (*white node*) public presence through the unidirectional use of media (marked "M").

3.6.1 *The Processing of Social Presence in Unidirectional Channels*

The first types of communication channel I will address are unidirectional communication channels (see Fig. 3.4). A unidirectional tie means that the individual can only receive information and cannot reply. Unidirectional channels are typical of scenarios in which an individual observes a social actor with the help of public transmissions. For instance, the actor could publicly appear in a newspaper article or as part of an advertisement. For this reason, I will refer to any social presence of this type as *public presence*.[31]

The best way to understand the value of unidirectional social presence is by picturing public personas[32] such as politicians, athletes, public experts, or celebrities, since it is part of their profession to appear in the media. The distribution of such presences allows citizens to process information about them, possibly through news, advertisements, interviews, or public debates. They might also confront the public in real-life events such as public speeches in times of elections. Even though most public personas have an audience in mind, most of their communication channels are unidirectional: their audiences mostly receive information and do not necessarily communicate anything back in the interaction.

There might be exceptions, though. Voters sometimes have the chance to meet a public persona in a meet and greet. In the age of online communication, they might also try to comment on the politician's social-media account. What is important to note here is that in unidirectional communication channels, individuals can still experience a feeling of reciprocity and social interaction

31 The term *public presence* was first introduced in a previous article on *relational trust* by Kunnel and Quandt (Kunnel & Quandt, 2016). Parts of that article were used for this section with permission.

32 For further elaboration on the use of the words *personas* and *personae* in the context of trust research, see Thiedeke (2007).

without direct interaction. Especially in times of public elections, a sense of social interaction might influence the voter's degree of commitment toward (or rejection of) the politician—and open the door to the experience of a social relationship. Particularly if an individual lacks political knowledge or expertise, the feeling of social interaction with a politician or party may motivate the voter's decision, which, in the end, could be essential to the politician's success.

With increasing coverage of individual, institutional, and systemic actors in the media and the emergence of online sources, unidirectional social presences can now be found in many areas of daily life. A good place to observe this is in the entertainment industry; even more than in pre-online times, celebrities are using mediated channels to address their fans and provide the illusion of social presence. For example, teenagers might feel as if they were closely related to pop stars or video bloggers just because they are able to frequently process their unidirectional social presence due to consistent updates. The fact that many public personas hire writers to represent them online is only secondary here, since individuals may still respond to these updates as if they were written personally. Such representation is not exclusive to the entertainment industry; public personas in other areas, and even individual users, have adopted similar strategies.

Experiencing unidirectional social presence is a very effective way of making a connection to someone who is very distant. Even without any direct interaction or experience, readers of a newspaper might be unreasonably afraid of criminals or terrorist groups on the basis of their public presence; or, for instance, they might feel an active commitment toward an athlete at the Olympics based on his public presence (cf. Dreiskämper, Pöppel, Westmattelmann, Schewe, & Strauss, 2016). If we feel related to a public social actor (in good or bad ways), it will also be easier to determine whether we can rely on his testimony or believe what he is saying. According to Giddens (1990), this emotional accessibility of public actors is one of the basic foundations of modern societies and provides a very effective way of transmitting information to larger audiences.

Furthermore, the experience of public presences can greatly impact the degree to which individuals feel attached to (or detached from) the more general public sphere (or what is often referred to as "the public"). To support this argument, I will presently consider the basic concept of the public. From a theoretical point of view, public spheres can be described as "networks of communicational flows"[33] that generate interactional space for individuals and

33 My translation of the German term *Netzwerk von Kommunikationsflüssen*.

organizations in human communication networks (Imhof, 2008, p. 73). In these *public arenas*, individuals are capable of interacting with certain public social actors, such as politicians, movie stars, or athletes, as well as groups and institutions (2008, p. 74). According to Koopmans (2004), a feeling of interaction with public actors is highly reliant on the visibility, resonance, and perceived legitimacy of mass media content as provided by professional journalism, public relations, or marketing (cf. pp. 373–376). Following the author,

> [. . .] the boundaries of the public sphere are not fixed, but can expand and contract over time. For instance, the rise of new channels of communication such as the Internet, or the multiplication of existing ones, e.g., through cable and satellite television, may expand the structural boundaries of the public sphere. [. . .] In addition to such more structural and long-term trends, the public sphere may also fluctuate importantly within shorter time periods. (Koopmans, 2004, p. 372)

Consequently, the way individuals experience public actors depends on how those actors are covered by the media or to what degree actor-related information is available.[34]

3.6.2 *The Processing of Social Presence in Bidirectional Channels*

If the context and situation allow for it, any communication technology can be used to process the social presence of other social actors. This variety is not only significant for the way individuals experience each other, it also contributes to the way societies adapt to the use of new technologies, as new communication media introduce new ways of experiencing social presence. For instance, it has become a common practice for employers to use video job interviews in order to get a reliable first impression of an applicant. Arguably, a big part of this procedure is the ability to process social presence through the video chat. The employer and the candidate can engage with each other and interact directly with each other simultaneously but without direct copresence. The communication channel they are using is bidirectional (see Fig. 3.5).

Bidirectional communication channels do not necessarily rely on temporal copresence. They can also be maintained through delayed types of communication, as with the writing of emails or letters. However, the idea that the interactants can respond in both directions is an essential part of their social reality, since their experience of social presence is determined by the idea of interactivity. For this reason, I will refer to such types of social presence as

34 I will further address the role of public mediators for the experience of social relationships and trust in Chapter 7.

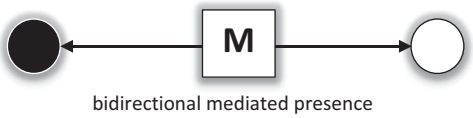

Fig. 3.5. Social presence in bidirectional ties. An individual (*black node*) and an interactant (*white node*) can process each other's social presence through mediated interaction (marked "M").

interactional presence.[35] In many ways, the concept of interactional presence comes closest to Short and colleagues' original definition of social presence.

Bidirectional communication channels can be found in traditional letter writing or in the use of telecommunications or information and communication technologies, such as telephone calls, instant messaging applications, and video-chat software. In these examples, the processing of the social actor's interactional presence is of great importance, since it allows us to experience a stronger sense of immediacy and connectedness. Taking this into account, Hwang and Park (2007) have suggested that "when we try to distinguish the experiences of individuals in physical environments from those in mediated environments, our understanding of what it means to feel present and what creates that feeling of social presence becomes a more important issue" (pp. 847–848). Following Neuberger (2007), the interactivity of a technology constitutes its type of use (cf. pp. 43–47). For this reason, the experience of interactional presences is essential for the effective use of such interactive communication technologies (cf. Weinel, Bannert, Zumbach, Hoppe, & Malzahn, 2011).

Depending on their restrictions, various communication technologies offer different potentials for the processing of interactional presence. In a simple telephone call, we do not get any visual or tangible information; in an online forum, we might get only a very limited sense of bidirectionality, depending on the number of responses. It is impossible, however, to generalize on the basis of these types of interactions. As some newer social media applications have shown, the processing of bidirectional social presences can be triggered even by single words or simple icons such as emoticons (cf. Kralj Novak, Smailović, Sluban, & Mozetič, 2015) or through gestures like an online *poke*—a tool to

35 The term *interactional presence* was first introduced in a previous article on *relational trust* by Kunnel and Quandt (Kunnel & Quandt, 2016). Parts of the article were used here with permission.

incentivize further interaction with another user. Arguably, many new types of online-based communication, such as social networking applications, sharing economy applications, or dating applications are based on the ability of strangers to sufficiently process each other's social presence through bidirectional channels (cf. Tanz, 2014).

In comparison to the processing of public presences, the processing of interactional presences allows individuals to experience a greater degree of participation and commitment. For instance, it might be easy for us to process the public presence of a large corporation that frequently appears in the news due to recent public scandals. However, the presence of this company and its rather negative impact on our society (and personal lives) might feel rather abstract, even if there's a sense of skepticism and alertness. Now imagine that one day you call the corporation's public hotline and talk to a specific employee at the other end of the line. This new bidirectional communication channel offers a different type of social presence, one that is impacted mainly by the interactional presence of the employee and the participatory nature of the conversation.

Particularly in modern communication technologies, bidirectional communication channels allow individuals to process social presence in very immediate and frequent ways. With the help of computational devices such as personal computers or smartphones, and with the aid of networking services and social media application, social actors can now continuously interact with each other and process each other's social presences. In many ways, interactional presences seem essential to how individuals deal with the social skeuomorphism of the digital social-resonance space, since they can give individuals the impression of "authentic" social exchanges and a feeling of relatedness.

3.6.3 *The Processing of Social Presence in Multidirectional Channels*

Until now, I have addressed two directionalities of communication channels: unidirectionality and bidirectionality. Since any new presence opens the way to a new experience of a social relationship, mediated communication has helped individuals extend their social environment significantly. Both public and interactional presences enable sufficient interactions without the necessity of direct copresence, yet lead to different results in the experience of social interactants. While it was once important to distinguish between the two types of social presence, with the digitalization of our society, a convergence of both unidirectional and bidirectional ties has become increasingly common. Especially on social media, it has become incredibly easy not only to interact with one's social contacts directly but also to keep track of their public appearances and updates.

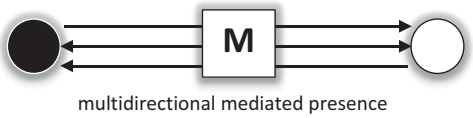

Fig. 3.6. Social presence in multidirectional ties. An individual (*black node*) and interactant (*white node*) can interact with each other through unidirectional and bidirectional channels at the same time with the help of networking media (marked "M").

Most social media portals allow users to process each other's social presence unidirectionally (e.g., through news feeds and personal profiles) and bidirectionally (e.g., through instant messages and chats) at the same time. Furthermore, these two directionalities may interact or even produce hybrid channels. If someone wanted to buy a used car from a person online, he might get in touch with him by writing a message. In this case, he would first experience the seller's public presence through his advertisement and user profile—and then switch to his interactional presence by chatting with him through messaging. With this convergence of unidirectional and bidirectional channels, the overall communication channel on which our interaction is based can be regarded as multidirectional (see Fig. 3.6). While the concept of multidirectionality might elsewhere refer to one's interaction with several different actors, it is used here to refer to the various possibilities for communication within a *single perceived dyad*. As explained in Chapter 1, both trust and the individual experience of social relationships are bound to the processing of a single dyadic relation.

The idea of multidirectionality in mediated channels as the result of a convergence of uni- and bidirectional channels is not new and is not exclusive to online communication. Even with the use of traditional media, unidirectional and bidirectional social presence can converge. One can imagine a television talk show in which the audience has the chance to call in and talk directly to a political candidate or celebrity and extend their processing of social presence with the help of direct interaction. However, such a scenario is not yet common.

With the use of social media or digital communication channels, such a scenario is not a rarity anymore. As online networking services have made it possible to process other users unidirectionally and bidirectionally at the same time, users can read public posts of their contacts and chat with them at the same time—which allows them to experience a new type of social presence that is characterized by a convergence of both directionalities. Furthermore, public personas can post messages to the public unidirectionally and still directly

engage bidirectionally with their followers. Similarly, users who have never been part of the public (and have only engaged online bidirectionally) can now post public messages and reach a general audience.

Multidirectional social presence might be most familiar to users who interact on the basis of social networking services. For this reason, I will refer to this type of social presence as *network presence*.[36] Especially in the realms of social networking services, collaborative consumption services, or the online sharing economy in general, the communication of multidirectional ties has become a highly important strategy for increasing the user's sense of immediacy and engagement toward his social network. It is thought to be beneficial to the maintenance of existing ties as well as to the incentivization of new interactions between strangers (van Dijck, 2013). Since the processing of social presences allows users to experience social relationships to one other, they might be more willing to commoditize their personal belongings or apartment with a sense of security and reliability in online interactions (Tanz, 2014).

As I have suggested, the processing of network presences further facilitates social skeuomorphism in digital environments, as it can generate a feeling of stability and reliability in the reception of information flows—and gives individuals the impression that their interactants are instantly and continuously accessible. In many ways, multidirectional channels may come close to the experience of face-to-face interactions, which also feature multiple ways of sending and receiving information. With technological progress, virtual reality environments are slowly becoming available, and users of digital communication channels will presumably experience a further increase of this digital immediacy. If the processing of social presence becomes more immersive in future, for instance with the inclusion of touch and movement sensitivity, the experience of mediated interaction might come even closer to that of direct copresence.

3.7 *Social Presence as the Main Stimulus to the Experience of Social Relationships*

The exploration of different types of mediated social presences has introduced different ways for individuals to relate to each other as part of their

36 The term *network presence* was first introduced in a previous article on *relational trust* by Kunnel and Quandt (Kunnel & Quandt, 2016). Parts of that article were used here with permission.

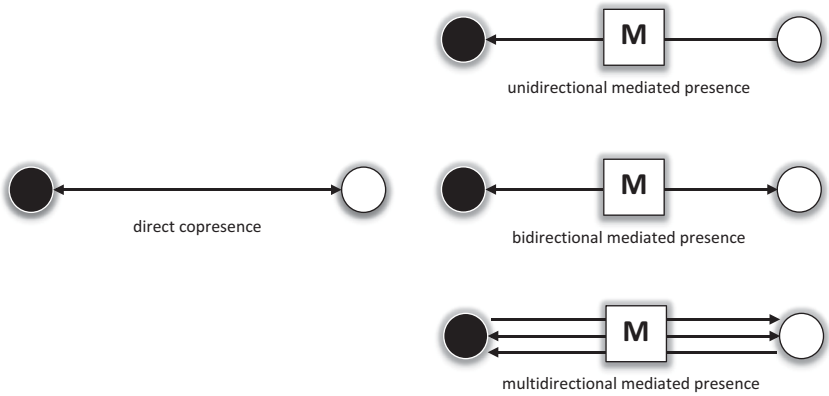

Fig. 3.7. Social presence in face-to-face and mediated interactions. The processing of social presence in face-to-face interactions (left) is characterized by direct interaction and the mutual experience of both interactants. On the other hand, the processing of social presence through mediated interactions (right) may greatly vary in experience depending on the directionality of the tie and the use of the medium (marked "M").

communication networks (see Fig. 3.7). Just as we can process social interactions with our new neighbor, we can process social interactions using mediated communication channels. Both types of information processing allow individuals to make sense of their social multiverse and attribute meaning to their social ties. If we assume that social presence is the primary stimulus to the experience of social relationships, we can conclude that the experience of social presence may be occurring all the time and can therefore be considered a rather natural part of how our brain tries to make sense of our social multiverse. Let me use a final and rather extreme example to emphasize this.

Imagine that one day you receive an anonymous letter with a death threat. Naturally, you are highly alarmed. You will start asking yourself whether the letter is a prank or an actual threat to your life. You may even call the police. Even if you were the most resilient person (and assuming this does not happen to you regularly), it would be hard for you not to feel some *presence* of the writer in that letter.

In many ways, the processing of such a presence is how our brain naturally tries to make sense of the situation based on the information flow. In the case of the letter, we might read it and process the writer's social presence a second or third time. Even if we never heard from the author of the letter again, this presence might impact our future life. We might install an alarm system in our

apartment, or we might feel anxious whenever we leave the house. In a very unwelcome kind of way, we might feel intensely connected to the writer of that letter, in the sense that we are continuously vigilant. As it turns out, we have started to experience some kind of social relationship with the writer of the letter, whose reception led to the experience of a social presence.

The example illustrates how the processing of social presence allows people to experience a social relationship toward an interactant—even if the interactant is unknown. It also illustrates that social relationships are not necessarily positive but can result in alertness and fear. While additional rational thoughts and observations might impact our experience of the interactant (cf. Chapter 5), it is the processing of such presence that is the primary trigger and information source for the experience of social relationships. In the example, the words in the letter are responsible for the sense of danger, but even more so was the feeling that *someone* has written them down and that we are, in some way, now involved in a reciprocal relation with this actor.

Against this backdrop, it seemed necessary to first discuss how the experience of social relationships can be traced back to the simple, implicit, and often subconscious experience of a stimulus (social presence), before I could further attempt to approach the human information processing that is responsible for the formation of a social relationship, as well as the general role of trust as a functional component of that relationship. It allowed me to ask where the informational foundation for trust and the experience of social relationships originate—and what types of information flow are responsible for it. The introduction of a unified view of social presence (as presented in this chapter) also allowed me to approach the experience of social relationships from a value-free perspective. It made it possible to address how any social interaction—mediated or not—can leave an imprint on our memory and may constitute, like any other interaction, positive or negative, the experience of a social relationship.

Based on this principle, Chapter 4 will now discuss how the individual processing of social presence can eventually result in the memorization of types of information that seem essential not only to the experience of social relationships but also to the formation of trust.

4 *Social Interference*

Relational Knowledge and Its Significance for the Experience of Social Relationships

So far, I have argued that the individual experience of social relationships is part of a perceived communicational relation between an individual and another social actor and that we must understand social presence as its primary information source and stimulus. Following this logic, each social interaction with an actor will leave an "imprint" on our memory through the perception of her (or their) social presence. This imprint will further allow us to perceive an ongoing relationship with that actor, especially if we repeatedly engage with her through more social interactions. Individuals can approach their social environment as a social multiverse, since each relationship can open the door to a social reality. Both trust and the experience of social relationships serve as parts of these unique social realities, as suggested by some authors (cf. Lewis & Weigert, 1985).

On a more general level, it seemed necessary to emphasize how any perceived relationship could be traced back to an information flow. Usually, the dynamics of social relationships are hard to explain to others and even harder to control. Since the common understanding of what constitutes a social relationship is frequently changing, each individual will come up with her own definition of what constitutes a "real" relationship. We have seen in Chapter 2 that most scholars cannot agree on the specifics of human relationships and struggle to find a standard definition for trust, as it seems difficult to discern its foundation.

The idea of social presence, then, allows us to articulate how individuals can build an individual mental connection to their interactants as part of their communicational relations. It can be assumed that whenever an individual engages with other social actors, her mind selects a range of actor-related information through her experience of an interactant's social presence even before she is consciously aware of it. This type of highly implicit information processing might also be linked to what she already knows about the other social actor.

To understand better how individuals may deal with social presence as a stimulus, we need to take a closer look at how our memory processes it.

4.1 *The Significance of Memory for the Information Processing of Social Presence*

Why is human memory of such importance for the processing of social presence, and how does it affect the experience of social relationships? We have seen in Chapter 3 that social presence can be best defined as a live stream of actor-related information that individuals process about their interactants during mediated or face-to-face interactions. It is likely that the processing of social presence in these interactions is mostly subconscious, even though certain details may become a more conscious part of our cognitive evaluation of that actor. To further address this phenomenon, it is necessary to take a closer look at how the imprint of social presence affects and is processed subconsciously by our memory and how it forces our mind to produce the impression of a social relationship.

In the framework of this book, it is assumed that individuals do not actively choose to perceive a social relationship with another actor; rather, it *just happens* as part of their information processing. We cannot actively choose whom we want to feel connected to. It is a result of the particular way our brain functions. In order to expand on this, I will first address how the human brain generally deals with information flows (and with what results). Following Dosher and Sperling (1998), human information processing focuses on three main areas: *perception*, *attention*, and *memory*. Its primary goal is to determine how the human mind perceives its environment and how that influences memory, knowledge, and, beyond that, human behavior.

I have addressed the role of perception by highlighting social presence as the primary information source for the experiencing of others. The point here is that what we perceive about our interactant is not identical to what our interactant actively communicates to us—it includes other stimuli beyond that. In some scenarios, the social presence of an interactant may even contain information provided by external factors or third parties. According to Dosher and Sperling, a large part of information processing research focuses on visual information. However, an individual perception of an interactant includes the other senses as well, such as hearing and, in actual copresence, touching and smelling; all of this information from the senses might be included in our processing of an interactant's social presence.

The second aspect of human information processing, attention, refers to the selective concentration on information by an individual in the sensory registry and is subject to a growing number of theories and empirical studies. According to Dosher and Sperling, scholars in this field primarily investigate

the spatial and temporal distribution and switching of attention (1998, p. 224). In Chapter 3, I touched on the role of attention, since social relationships can be considered a result of how individuals frame their attention around the experience and perception of dyadic relations and whatever information their mind selects as part of the interactant's processed social presence. Attention plays a significant role in how much and what kind of information individuals will experience and process about their interactants as part of their social presence. In the case of the neighbor that we met only three times, our attention played a significant role in whether we would process the three encounters as part of one coherent relationship or not. In the example of the man who followed us on our way home, our attention was responsible for making us aware of him and the possible danger he presented.

The last area of research, memory, determines to what degree our mind can store and access information about other social actors. Memory seems particularly important for the formation of social relationships, since the mind needs to access information from the past that is not a part of the current experience in order to perceive such relationships. According to Edelman, memory is a

> term used for a variety of systems in the brain with different characteristics. In all cases, however, it implies the ability to reinvoke or repeat a specific mental image or a physical act. It is a system property that depends on changes in synaptic strengths. (Edelman 2005, p. 166)

On a basic level, memories can be understood as sets of internalized information that our brain stores or inherits and can later access. In our most common colloquial understanding, a memory is usually understood as the storing (or memorization) of a discrete past experience in the human brain. However, it makes more sense to get rid of the impression that memories originate only from past events. If we understand them just as stored information, they can equally include anticipations of the future. Taking this into account, it is plausible to assume that memories are not tied to a specific temporal direction or preference. Arguably, a memory can also be the result of an expectation or observation about the future—and it can also be ambiguous or false (cf. Roediger III & McDermott, 1995). If we know that tomorrow is our birthday or that it is very likely going to rain, this information is not memorized with a different logic than past experiences.

In their engagement with other social actors, individuals are usually equipped with memories about the past and future of their relationship but might also access further knowledge of their general experience with others. Following philosopher Henri Bergson, the retrieval of memories is not entirely

separable from one's momentary perception, as both are intertwined in such a way that they cannot be excluded from each other (Bergson, Paul, & Palmer, 2004). Simply speaking, individuals cannot perceive without "remembering," and vice versa. Bergson also paved the way for a distinction between short-term memory (which is thought to comprise mostly information in the moment) and long-term memory (believed to recollect information that has been memorized in the past) (cf. Nikulin, 2015, p. 246).

While such a view might differ slightly from our common everyday understanding of memory (one that prioritizes the memorization of past experience), it nevertheless highlights the idea that the information has to be first memorized in the past (just as our anticipation of the weather) so that it can be accessed by our mind later. Following David Deutsch (1998), I will refer to the process of remembering as the retrieval of knowledge. Knowledge, in this definition, is not the stored information (or memory) itself, but any memory that is in the process of being retrieved from long-term memory for temporary usage. Such a definition frames knowledge as a rather dynamic entity and moves away from the idea of fixed states of knowledge. Furthermore, the act of retrieving knowledge does not refer just to the cognitive retrieval of information in the form of thoughts or ideas; it can also refer to the retrieval of certain emotions or bodily sensations as part of our general perception and motoric functions.

To deal with the multi-layered subject of memory, one has to confront certain challenges in current research, as our knowledge of what constitutes human memory is still relatively limited. Scholars have increasingly turned away from one-directional models of human information processing in favor of more holistic approaches that consider memory in the light of dynamic structures like neural nets, a series of interconnected neurons in the human brain (cf. Squire, 1986). Beyond that, research has looked at different areas of the human brain, such as the limbic system or the mesolimbic pathway, that are thought to directly impact human memory, especially in the realms of social processing, emotion, and decision making and the presence of interpersonal trust (cf. Isaacson, 2003; Koscik & Tranel, 2011).

Considering this level of complexity, it is challenging to approach the idea of human memory from a communication-theory point of view. Because communication theory is more concerned with the general mechanics and procedures of human communication, it seems necessary to approach memory from a broader and more generalizable perspective—one that explores the underlying logic of how most individuals comprehend and access information. To achieve this, we need a more schematic framework, one that, to a certain extent, reduces the complexity of human memory to its basic features. A good way to approach

these basic features is the *model of human information processing*[37] introduced by Norbert Streitz (1987).

4.2 *A Simplified Model of the Information Processing of Social Presence*

While somewhat simplistic in design, Streitz's model of human information processing seems fitting for a more generalizable perspective on human information processing and has been referred to in the literature as an overview model. Originally, it was developed to explain the psychological aspects of human-software interaction and uses the (somewhat outdated) idea that the human brain functions similar to a computer (known as the "information processing metaphor").[38] Despite its shortcomings, Streitz' approach can give us a simple overview of how human memory functions and is easily applicable to both the information processing between humans and the human reception of actor-related information distributed by communication media or machines. Furthermore, Streitz's model does not insist on drawing a clear line between human information processing in direct copresence and mediated interactions. It allows us to consider stimuli from different (mediated) sources as well as stimuli from direct interactions, an approach that is clearly in line with the assumption that social presence can be processed equally in both face-to-face and mediated interactions (cf. Chapter 3).

To place it in the context of social perception, it was necessary to adjust a few aspects of Streitz's model.[39] The resulting alteration of the model emphasizes the most significant mechanisms in the processing of social presences and

37 My translation of the original German title, *Ein Modell menschlicher Informationsverarbeitung*.

38 As Epstein (2016) has noted, researchers have not yet found any proof that information is actually stored as singular entities in the human brain. Nevertheless, the information processing metaphor (IPM) can be considered part of a helpful strategy to deal with the subject of human information processing on a purely analytical basis.

39 First of all, I have replaced the input (*stimuli*) and the output (*reaction*) of the original model with two factors specific to my argumentation: *social presence* and *social interaction*. Since the original model was meant to include any kind of information processing, such an alteration was necessary to confine it to the realm of social interaction. Furthermore, I have renamed the perceptual, cognitive, and motoric *processors* as *processings*. This was done in order to emphasize that perception, cognition, and motor functions are the result of complex and highly dynamic processes and are not restricted to single "processors" on the "hard drive" of a brain.

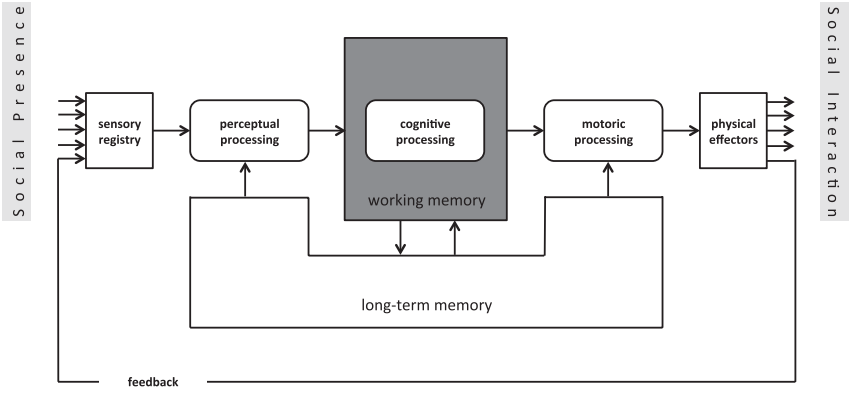

Fig. 4.1. Revised model of human information processing. The original model by Streitz (1987) was altered to address the specific processing of social presence.

addresses how this processing will impact the interaction with another social actor (see Fig. 4.1). It can be used to further explore the significance of social presence for the experience of social relationships on a theoretical basis. In many ways, the use of such simplified information processing approaches can give us a clearer understanding of the general imprint the processing of social presence may leave on the human brain.

Following Streitz, human information processing can be divided into three subcategories: *perceptual processing*, *cognitive processing,* and *motoric processing*. While this distinction ignores the more dynamic features of the human brain, it serves as a practicable way to emphasize the various mechanisms the brain activates for processing information. Above all, it helps us think about stages of human information processing that appear to be necessary in order to "digest" the social presence of an interactant.

First, stimuli (or in our case, social presence) are caught by the sensory registry and recognized by the perceptual system. They are then mediated by the cognitive system as part of the working memory. Finally, they are processed by the motoric system, which then navigates physical effectors into actual conduct—with the result that actual behavior manifests in the social interaction. This might also include types of behavior that are nonsalient, such as being silent or not reacting at all.

The second main feature of this model is how it visualizes the interplay between working memory (or short-term memory) and long-term memory.

Because the working memory is processing information, it also transfers part of the information to the long-time memory. For this reason, part of what is actively processed through social presence will "seep into" the long-term memory and can be accessed later on in the form of memorized information (this can be thought of as the imprint that I previously referred to). Considering this, the relation between the working memory and the long-term memory appears to be a symbiotic one. The working memory is the main source for the long-term memory, while the long-term memory provides the working memory with knowledge that has been memorized (cf. Baddeley, 1992).

According to Streitz, the cognitive system is not the only one impacted by the retrieval of knowledge from the long-term memory. As we can see in the figure, retrieval also affects the perceptual and motoric systems. This is very significant, as it makes clear that knowledge impacts not only the way we evaluate interactants cognitively but also how we generally perceive them—and how their presence will physically affect us. For instance, we might be highly prejudiced toward other people at first sight, even though we might not be able to support this rationally; or we just might feel a certain kind of unease in the presence of specific social actors, which might affect our physical state, such as our respiration, heart rate, perspiration, or motoric skills in general. Based on Streitz's model, we can assume that this does not necessarily happen consciously, as the working memory is mostly excluded from this process. Nevertheless, our perceptual and motoric systems can access knowledge from the long-term memory.

The third and last main feature of the model is the feedback loop. It signifies that one's own (physical) interaction with the interactant and her response will become a part of her social presence. In that sense, one's engagement will provoke a new set of stimuli that will then be part of the actor-related information spectrum. All of this suggests that we will process not only information about the interactant but also how she engages with us (or how we engage with her). This feedback loop is essential for an understanding of information processing as an ongoing sequence that presumably can stop only if it runs out of stimuli (including one's own conduct and involvement).

4.3 *The Significance of Long-Term Memory for the Processing of Social Presence*

Streitz's model offers us an opportunity to specify how the human brain processes the information spectrum of social presence. Most importantly, it gives us a framework to investigate how social presence affects our memory—and

how it might genuinely depend on the interplay between the working memory and the long-term memory. Following the model, we can find two primary ways in which individuals theoretically could process social presence: In the first scenario, an interactant's presence is processed directly and one-directionally through direct affect. The information would directly pass the perceptual and cognitive systems (without the great computational workload of the working memory) and then travel to the motoric system. Furthermore, this kind of processing would then manifest itself in a direct physical reaction and would result in some kind of interaction. Let me use an example to clarify this.

Imagine that on your way home, a sinister-looking woman suddenly appears in front of you. She grabs your arm and appears to be trying to rob you. Suddenly, your survival instincts are at play: you shove her, release yourself successfully, and run away. You have found your way out of the situation without the need to access any further knowledge.

Now let us again take the example of a stranger presumably following us at night. As I have noted, the perception of his social presence can happen in a blink of an eye and does not necessarily rely on an extended timeframe. Nevertheless, we might perceive a (rather disturbing) relationship to him as the result of his social presence. As our attention is drawn to the man, our information processing is characterized by an ongoing loop of sequences and a continuous supply of stimuli. For instance, we might look back several times and check how far the stranger is behind us or what he exactly looks like. Furthermore, our mind might access additional knowledge that we have previously memorized, such as news about current criminal activity that we have read, our knowledge of what an actual criminal looks like, or the knowledge of past negative experiences that have made us vigilant.

Based on this retrieved knowledge, we might develop a sense of alienation or even fear. In a sense, we know something about the stranger, even if we do not know him personally. We can anticipate his conduct intuitively, based on our use of knowledge without having interacted with him before. As I have noted, the definition of knowledge used in my argumentation has no qualitative connotations but considers only which memories are being actively retrieved. Even if this retrieval is based entirely on prejudices and stereotypes, it can be retrieved in actor-specific ways and can manifest itself in actual thoughts as well as in bodily sensations or emotions.

These two examples illustrate that without the inclusion of long-term memory, there could be no experience of sociality or connectedness in interactions. Even if the attempted robbery (in the first example) further impacts us in such a way that we perceive some kind of social presence of the stranger (or a more general

group of "criminals" afterward), this will require the accessing of some kind of knowledge. We must assume that at least some activity of long-term memory is needed to perceive an interaction as reciprocal and, to a degree, social.

With Streitz's model, we can then ask which specific information is stored in our long-term memory whenever we process the social presence of an interactant. What is the imprint that social presence leaves on our brain? It is not entirely clear to scholars how exactly information is stored as memories and how long it is accessible as knowledge, or whether memories are really being stored or just distributed as simulated behavior (cf. Epstein, 2016). Furthermore, scholars have not yet agreed on how memories are forgotten and disappear from our memory, as the loss of information still remains a mystery (cf. Spear, 2014). If, for instance, the human brain stores information in holistic neural nets, bits of information may not be memorized singularly but are instead incorporated into larger networks.

Considering these limitations, I will focus on Streitz's original (and rather abstract) concept of information being "stored" as part of long-term memory's proceedings—fully aware of the information processing metaphor on which it is based. This focus will allow me to speculate in a broader and more general way on the memorization of social presence in long-term memory and ask what general *types* of information are memorized in this process that will further enable the perception of a social relationship.

4.4 *The Memorization of Actor-Related Information Deriving from the Processing of Social Presence*

Following the assumption presented in this chapter, it is possible to investigate which types of information will leave a lasting imprint on our memory as part of an interactant's social presence—and how that will further impact our social perception of her. I suggest that we primarily focus on two types of information that derive from social presence and are further memorized in our long-term memory. The first type includes any *actor-related information* that we observe and recognize in relation to our interactant as part of what our mind has filtered as her social presence from the information flow.

First and foremost, this primary type of memorized information includes information about the interactant through the perception of her social presence. Beyond the interactant's actual conduct and appearance, it also includes information about the interactant's looks, behavior, smell, words, and statements, as well as more complex factors such as her affiliation with others, reputation, and self-presentation. However, it is not only the outer appearance and the behavior

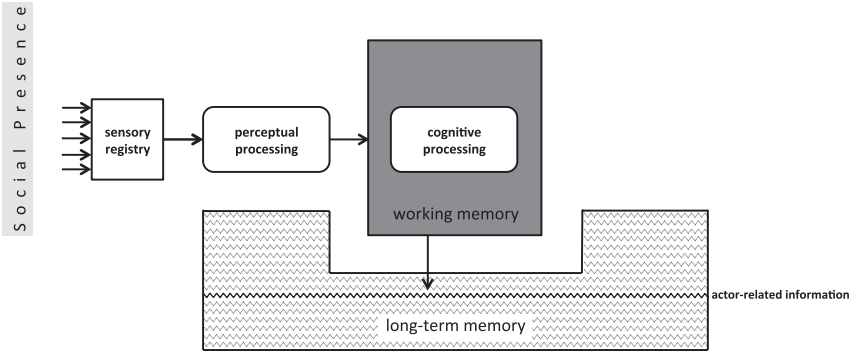

Fig. 4.2. The processing and memorization of actor-related information. As part of the processing of social presence, information about the interactant is memorized in long-term memory.

of an interactant that will determine her social presence; we might also memorize contextual factors, such as the time and location of the interaction, its general mood, or the presence of other social actors who have contributed to our interactant's performance. For instance, we could recognize that others are laughing at an interactant's jokes and draw conclusions about her sense of humor. In this sense, actor-related information includes not only one's own direct impressions of an interactant but also contextual factors that contribute to the overall perception of her.

All of this information can be memorized in long-term memory and used to build a contingent of actor-related memories that our mind can further retrieve and access as knowledge (see Fig. 4.2). What seems necessary to note in this context is that the memorization of actor-related information does not have to be conscious. Individuals may retrieve actor-related memories from interactants weeks after an encounter—without being consciously aware of this information during the interaction itself.

That being said, actor-related memories do not consist only of things that we have recognized or observed; they can also include emotional and physiological levels of human interaction. Humans do not always remember every single detail of a previous interaction but may be able to memorize and retrieve a particular feeling or emotion that they had during the interaction. Furthermore, they might remember the actual physical experience of the interaction with another social actor. If this included a punch in the face, the memory (of the physical experience of being punched in the face) could be retrieved years later

with clarity and intense emotional involvement. What this illustrates is that our observations are essential not only for the memorization of an interactant's social presence but also for the emotional investment in and physical experience of the interaction. If actor-related memories are stored and later accessed as knowledge, they may also include emotional or sensory contingents of actor-related knowledge.

With this in mind, we can assume that actor-related information allows individuals to memorize complex sets of information about their interactants. With each interaction, their knowledge about their interactants expands, and they become more reliant on this knowledge as they share a certain familiarity with a particular social actor. As Harris and Koenig (2006) have noted, this sense of "getting to know" our social interactants generates a feeling of reliability and is something that humans begin to acquire in their early development as children. Thus, the memorization of actor-related information through the processing of social presence can be considered an essential prerequisite to social perception—especially when we need to rely on the testimony of others. For adults, the retrieval of actor-related knowledge becomes an even more important component of the way individuals navigate their social environment, as it allows them to be aware of and respond to their social interactants on cognitive, emotional, and physical levels.

In many ways, this awareness and memory of others based on their social presence must be considered the first step in the experience of social relationships. To perceive such relationships, individuals must first memorize and internalize information about their interactants that they can further retrieve as knowledge as part of their daily routine. Without actor-related knowledge, we would not know whom to feel related or connected to in a meaningful way. However, a consideration of how individuals memorize sets of actor-related information can tell us only what they have observed about their interactants but not why they feel related in a significant way—it does not necessarily tell us why we perceive a unique, intersubjective social connection with another actor as part of a social multiverse. Considering the central assumption that the experience of social relationships contributes a sense of meaningfulness to our perception of others, we must look further and ask where this meaningfulness originates. I propose that there is a second type of information that is generated and being memorized with any processing of social presence—a type of information that does not refer to our interactant as an external actor but explicitly to our shared relation with her. I will further refer to it as *relational information,* since the content of the information addresses the relation itself (rather than the interactant).

The main purpose of relational information, then, is to give us an implicit and intuitive impression of how we interrelate with another social actor.

4.5 *Intersubjectivity and the Memorization of Relational Information*

In many disciplines related to the exploration of trust and social relationships, the concept of *intersubjectivity* is used to refer to a vague sense of interrelatedness between two or more actors that seems essential for a sense of shared identity and the general process of understanding the conduct of others (Schützeichel, 2004, pp. 124–128). It is also highly present in the work of Alfred Schütz (cf. Chapter 2), who predicted that two interactants must share at least part of how they experience the world in order to understand and interact with each other (cf. Schütz, 2004). According to Gillespie and Cornish, the

> concept of intersubjectivity is used widely, but with varying meanings. Broadly speaking, [. . .] intersubjectivity [. . .] refer[s] to the variety of possible relations between people's perspectives. If we take social life to be founded on interactions then intersubjectivity should be a core concept for the social sciences in general and understanding social behaviour in particular. (Gillespie & Cornish, 2010, p. 1)

Following the authors, this variety of relations between perspectives is thought to result in a mutually shared perception of the world between social actors. This shared perception allows interactants to produce a mutual understanding of shared conduct. As Hardin (2004) has noted, this idea is of particular importance for an exploration of trust, since individuals can build "encapsulated interest" in an interactant by including her perception or conduct into their individual social cognition (cf. pp. 7–11)—a thought similar to the general theory of mind that I have referred to in Chapter 3 (cf. Goldman, 2012; Perner, 1991). Both concepts highlight the idea that if we know what to expect from our interactants and are aware of their expectations toward us, we are capable of structuring our individual behavior on our anticipation of their conduct.

The consideration of intersubjectivity allows us to further explore the level of relational commitment that individuals perceive to be necessary for the experience of social relationships. While intersubjectivity itself is a highly controversial concept, it has been of emerging interest in the field of trust research and the exploration of social relationships. Several trust scholars have approached trust as an intersubjective relation between two social actors. As I have noted in Chapter 2, terms like "identity-based" trust and "relational" trust are used to refer to this underlying intersubjectivity (cf. Möllering, 2013, pp. 7–9). As

Lewicki (2003) has suggested, future research on trust's rather complex role in the perception of intersubjectivity in social relationships must be understood as something like a perceived "shared identity"[40] between actors. If we believe that individuals are in a continuous state of social identification with other social actors, we might also refer to this degree of shared identity as intersubjectivity.

As Endreß (2008) has further highlighted, both trust and the experience of social relationships are characterized by a general underlying "operational"[41] functionality—something that silently accompanies any social relationship and is not visible to our conscious perception and rational evaluation. Like Lewicki, Endreß has articulated a need for a change in trust research to address this subliminal operating principle of trust. Related to this is the dilemma that trust itself cannot be explained through rationality (which, following Streitz's model, is likely to originate in the working memory) and usually does not appear to be rational at all. In many situations, it is impossible to explain why someone would act based on a feeling of trust even though we could presume that she knew better rationally.

For instance, a very rational and reflective person might still fall victim to a charismatic con artist if she develops a high trust toward him. We may not be able to explain her behavior entirely through rationality (she might have relied rationally on the artist's lies!), nor are we able to fully explain it entirely through her needs and beliefs. Instead, we need to know more about how she perceived the con artist and what kind of intersubjective bond she developed with him on implicit and subconscious levels. Following the work of scholars like Castells or Putnam, this is true not only for interaction with individual social actors but also for interactions with groups or institutions—which can produce similar intersubjectivity (cf. Castells, 2012; Goffman, 1963; Putnam, 2000).

Although it is usually handled as a rather vague concept, it is possible to approach intersubjectivity through the perspective of information processing and, more precisely, through the processing of social presence. As I have noted, the first and primary type of information that our mind processes from an

40 The concept of shared identity must not be confused with the recognition of commonalities between actors, as highlighted in the socio-psychological concept of *shared reality* (cf. Echterhoff, 2014). While the concept of shared reality suggests that two or more actors might share a similar perception of their social environment, the concept of shared identity emphasizes the subjective perception of a common ground and a level of shared experience between oneself and other actors (Kunnel & Quandt, 2016).

41 Translated from the German *fungierend*.

interactant's social presence is actor-related information, such as observations, emotions, or sensory memories. All of this information can be memorized in our long-term memory and can remain as a very distinct impression of the interactant.

While such an impression can help individuals navigate their social environment as a social universe, it is not enough to produce a sense of intersubjectivity and meaningfulness that is required for a social multiverse. For this reason, I propose that with any primary memorization of actor-related information, a secondary type of information—relational information—is memorized in our long-term memory almost as a byproduct. In support of this idea, I employ the term *social interference*[42] to describe how, during the processing of social presence, our mind disruptively aligns the perception of actor-related information with our self-perception. By merging the impression of the interactant with the impression of ourselves, social interference allows our consciousness to make distinct and unique connections with other social actors within our social multiverse.

4.6 *Social Interference*

To address the specific concept of social interference, it seems necessary to discuss the general notion of interference theory in the psychological literature. Psychologists originally used the notion of interference to explain how old memories are overwritten or disrupted by new interfering information (cf. Underwood & Postman, 1960). For this reason, the concept has been used mainly to explain what causes forgetting in the human mind, as it is generally assumed that new information replaces old information or that old memories hinder new information from being memorized through such interference. Furthermore, interference is thought to contribute to the fragmentation of an individual's attention whenever she is confronted with multiple tasks and structures (cf. Kahneman, 1973, pp. 178–201).

Consequently, traditional interference theory suggests that interference must be understood as a rather problematic disruption to human information processing that leads to mostly negative outcomes, such as confusion or the loss of specific memories. Apart from that, the idea of interference can be highly fruitful in the context of the experience of social relationships if we distance ourselves from a perspective that sees the collision of information as

42 Not to be confused with the concept of inference.

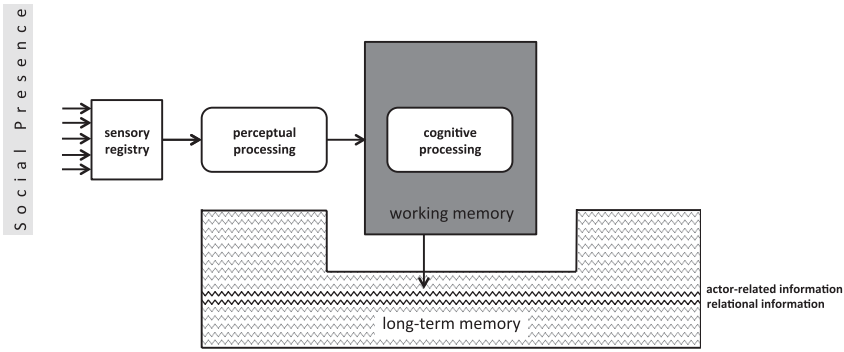

Fig. 4.3. The memorization of relational information. Through social interference, additional relational information is memorized in the long-term memory whenever actor-related information is processed.

problematic. Instead, I suggest that it can contribute to the production of a new type of information.

From such a perspective, we would look at how new external information alters the way we process information internally. It seems plausible that the collision of two different types of information can produce new knowledge that further enriches our memory. In the particular case of processing another actor's social presence, our mind may not only memorize actor-related information but may also invade our own sense of identity. Going back to the example of the person who is "following" us at night, our processing of the situation might differ if that person looks similar to us or wears the same shoes or, to use a very specific example, wears a shirt of our favorite rock band. Social interference, then, refers to the collision between information that we process and memorize from the social presence of an external interactant and information that we have memorized as part of our self-perception (see Fig. 4.3). The result of this collision is a new type of information—relational information.

With this in mind, I propose that as part of the processing of social presence, the human mind not only processes actor-related information but also produces and memorizes relational information through the process of social interference. If this information is later accessed or retrieved as relational knowledge, it can generate a sense of shared identity and intersubjectivity, since we have now developed a very distinct impression of what relates us to our interactant through social interference. From such a perspective, it seems possible to use the concept of interference so that the collision or interaction of different

sets of information can generate new types of memories (and knowledge) in the long-term memory. This type of "meta"-information may be memorized and retrieved similarly to external information, even though it is manifested internally.

As Chapter 1 showed, both individualization and interconnectivity provide people with different sources of information, as the internal knowledge that a person retrieves from her individual memory is often different from the external knowledge that she retrieves from their interaction with others. One can assume that a collision of these sources generates a new sense of connection and shared identity.

To further address social interference, it makes sense to imagine an individual's self-perception as a somewhat closed system and the perception of the interactant's social presence as an equally closed system. As Mead (1934) has noted, "the individual is an object to himself, and the individual is not a self in the reflexive sense unless he is an object to himself" (p. 142). Both systems include the whole spectrum of existence, such as world-views, behavior, attitudes, affiliations, and experiences. Through social interference, the human consciousness can implicitly experience similarities and differences between these two systems on a very subliminal level and create a new connection between them.[43] More precisely, it can produce a type of information that gives individuals the impression that part of their mental system and part of the interactant's system are to a degree identical or nonidentical.

Thus, social interference produces a new reality through which people emotionally relate and socially identify with other actors, since certain features of their self-perception and those of another social actor seem inseparably connected; this connection can then become an essential part of an individual's social identification. Because it creates the impression that a feature in one's own system and a feature in that of the interactant are identical (or not), social interference may be most salient when it produces bipolar results; in such cases, an individual might experience certain features to be one hundred percent identical or one hundred percent nonidentical with that of an interactant. As I have argued in Chapter 2, the idea of bipolarity is not an entirely new idea in the context of social relationships, particularly in the context of trust. Taking this into account, the concept of social interference supports the idea of such bipolarity in the perception of others.

43 I have addressed this symbiotic relation in Chapter 1.

But what do individuals exactly memorize when they process and store relational information in long-term memory through social interference? While one can only speculate, I would suggest that individuals perceive social interference in different psychological dimensions. As Alberto Melucci (1995) has noted, social identification is generally built on "active relationships" that are based on behavior, "cognitive definitions" and "emotional investment" (cf. pp. 44–46). They are all part of a process that is "constructed and negotiated through a repeated activation of the relationships that link individuals (or groups)."

Furthermore, Lewis and Weigert (1985) have noted that the way individuals perceive trust is built on information foundations and can be traced back to specific contents, which are mainly of a *behavioral*, *cognitive* and *emotional* nature. These dimensions are "interpenetrating and mutually supporting aspects of [. . .] [one] unitary experience" and they are "present in every instance of trust to some extent, their qualitative mix across instances of trust differs, and these differences provide the basis for distinguishing types of trust relationships" (p. 972). While admittedly all three dimensions cannot be completely separated and in fact interfere with each other, these categories provide a helpful framework for specifying how social interference may lead to the memorization of new relational information. Let me use a rather common example to illustrate this.

Imagine you are meeting a good friend at a coffee shop. You grab a coffee, sit down, and have a chat. During all of this, while most of your attention is drawn to the conversation, you process your friend's social presence. First, you process basic behavioral information through your physical exchange, such as eye contact, touch, the smell of your friend's cologne, or the physical experience of the conversation itself. You will also process information from a more cognitive reflection on your friend—for example, that she looks tired or is behaving unusually. On the most basic level, you will also process information about your friend that addresses your friendship as well as the feeling of emotional association. For instance, you might talk about mutual friends, your favorite movies, or your families.

This example emphasizes that the distinction between behavioral, cognitive, and emotional dimensions is a helpful strategy to make sense of how the mind can turn the social presence of an interactant into relational information.[44] In the following, I will discuss all three dimensions in greater detail.

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44 In the 2016 article by Kunnel and Quandt (2016), a similar framework was introduced in the context of shared identity. In the process of theory building, I have further developed and calibrated this framework.

4.6.1 *Interfering Experience of Interaction*

Of the three dimensions, the behavioral dimension is the most essential and immediate, because it affects us directly and often physically. Interference and a feeling of intersubjectivity can be initiated and communicated just by simple types of interaction. In the conversation with your friend at the coffee shop, a sense of intersubjectivity might be initiated by eye contact or through simple forms of exchange.

If you have known the friend for a long time, you might already have a good sense of your interfering experience of interaction with her. This will not only form your ideas of what types of direct interaction are possible but will also influence more complex types of interaction, such as the ability to mutually support and accommodate each other, or the ability to collaborate and cooperate. The point here is that any direct interaction offers some kind of relational information, since any interaction enables us to link specific actors to specific types of interaction. As Endreß (2008) has noted, direct interactions are consistently performed in a relational mode (cf. p. 8).

Accessing information about our interfering experience of interaction with other social actors not only makes it easier for our consciousness to anticipate the interactant's behavior but also allows us to perceive intersubjectivity in our mutual conduct. A simple example to illustrate this is the way we welcome other social actors—which usually depends on the memorization of relational information. For example, there might be a handshake, a kiss on the cheek, a simple hug, or no body contact at all; it all depends on what we are used to in that relationship. Through the memorization of relational information, we perceive a certain type of behavior in our internal system as identical with one in the external system of the interactant. This is true not only for interactants who are individuals but can also be applied to larger groups perceived as part of a dyadic relationship. For instance, and on a very basic physical level, all members of a soccer team can build intersubjectivity regarding their teammates' behavior based on the (growing) interfering experience of interaction. If the team is operating well together, the team members will be capable of perceiving a sense of shared identity regarding their past experiences on the soccer field simply on an intuitive level.

As we can see, relational information is more than just information about the interactant. There is a major difference between knowing that a teammate is a good striker but a horrible defender and knowing (on a very implicit level) how both of you can play well together and under what mutual assumptions and

behavioral rules the interaction between you operates. For instance, in a different context, an interfering experience of interaction might occur based just on a simple touch. Depending on our perception, this gesture can be processed as a shared experience of intimacy or (if used inappropriately) as a shared experience of molestation.

Taking all of this into account, we must assume that direct interaction is the most basic level on which individuals experience social interference with other social actors. If we have coffee with our friend, we can be sure that she is experiencing physical interaction just as we are and might memorize part of its relational information. The level of interfering experience of interaction might be lower in mediated interactions, especially in those that feature a longer response time (such as email writing) or are processed unidirectionally (such as the reception of a public actor in an advertisement); if the interaction does not include direct exchanges, the occurrence of an interfering experience of interaction may be limited.

4.6.2 *Interfering Character Traits and Features*

Beyond the direct, physical experience of interaction, social interference can occur on the basis of cognitive processing. This allows individuals to produce relational information even if there is no direct interaction. Using once again the example of having a coffee with a friend, we can see that this interaction includes frequent observation and reflection of each other. For instance, you might recognize that you and your friend share similar features or characteristics—or are completely different in certain aspects. Or that you both ordered the same meal and have the same taste in food (cf. Woolley & Fishbach, 2017). In this sense, our reflection of a friend and the recognition of identical or nonidentical features might be regular aspects of how we process her social presence.

In this cognitive dimension, social interference may occur based only on the reflections of the interactant rather than the actual experience of interaction. If you feel that your friend is tired, and you are as well, or if you hear about her problems at work and are experiencing something similar, interference might occur. Furthermore, you may reflect on certain things that are completely nonidentical to how you perceive yourself. For instance, you might reflect on your friend being a very religious person, while you are a convinced atheist. Such interfering character traits and features can give us a clearer sense of the interactant and build confidence in how we interact with her. If we have an adamant

sense of mutual character traits, we might feel more secure in the interaction; if we have a strong sense of diverse character traits, we might be more hesitant.

Depending on our familiarity with another actor, we might develop not only a strong sense of what behavior would be acceptable and plausible in the future of the relation but also what traits we and the interactant share on a more general basis. This is particularly true in relationships characterized by either strong friendship or active enmity. In such cases, individuals often have a very strong impression of how similar or different their own "system" is to their interactant's. Based on their theory of mind (cf. Chapter 3), individuals are generally able to process more abstract character traits as part of the interactant's social presence on cognitive levels. For example, they might experience that an interactant is reliable and always appears on time, which may then interfere with their sense of self as a punctual person. Beyond the experience of physical interaction, such cognitive interference allows individuals to deal with aspects of social interaction that require the processing, and observation, of the interactant's character traits and features. Using the example of punctuality again, it might be easier for a person who sees herself as punctual to implicitly deal with someone whom she experiences as similarly punctual.

Because of this reflective nature, the memorization of relational information in the cognitive dimension allows individuals to perceive intersubjectivity even in mediated interactions and even in those that are unidirectional. It can explain why many people are able to relate to public personas through their media appearances (for example, on TV and radio) despite the lack of any physical interaction (cf. Chapter 1). Without the luxury of direct interaction, the memorization of interfering character traits in the cognitive dimension is arguably more abstract than interference that occurs in the behavioral dimension, but might be nevertheless efficient in creating a sense of connectedness. It also allows individuals to develop a sense of relatedness toward larger groups, which are often hard to comprehend or process beyond the interaction with single members and representatives of the group. It is likely that the occurrence of social interference in cognitive dimensions—the alignment of our own sense of self with what we have observed about our interactant(s)—impacts our acceptance of such groups (cf. Kramer, 2009; Melucci, 1995).

4.6.3 *Interfering Sense of Belonging*

In the context of trust, the role of emotions (and affect) has been highly underresearched, since trust is often placed in more rational contexts (cf. Lewis &

Weigert, 1985).[45] This is surprising, because trust and, even more so, the experience of social relationships are usually thought to provoke a high emotional response. A certain degree of emotionality is the foundation of relating to another social actor, since it can support an unyielding sense of association and intersubjectivity with the interactant. This feeling of association is often based on an internalization of shared values and a more urgent sense of identification, similar to what we may find in family structures or intimate relationships.

This should not suggest that the emotional dimension of social interference is something that occurs only in close relations; quite the opposite could be the case. Since it is mostly constituted by what I would paraphrase as an interfering sense of belonging, it may result from how we feel socially related to a person, a group, or an institution on the most basic levels (cf. Knox, Savage, & Harvey, 2006, pp. 133–136). This emotional dimension of social interference could be equally significant for any sense of intersubjectivity between social actors who are not very closely related. If the interactant is a friend of a friend, this might be a very significant type of relational information for our future interaction, even if we do not know this actor personally. If the interactant is a total stranger, it might be harder for us to experience emotional interference.

Indicators for emotional interference can be such factors as a sense of shared beliefs or a shared ideology. On a more abstract level, social interference might occur through symbolic tokens such as logos or brands, if they offer a sense of association (cf. Giddens, 1991, p. 90; Reich, 2011b, p. 99). If we see someone wearing a shirt displaying an image of our favorite rock band, we might perceive a sense of intersubjectivity and a feeling of shared identity just based on the artwork. Another example (one that is more politically charged) is how interference might occur between people of different religions or ethnicities or with different political views (cf. Krastev, 2012; Whaley, 2001). In these cases, an interfering sense of belonging is a very broad source for the memorization of relational information, one that may feature a strong emotional response and can be applied to strangers as readily as it can to people with whom we are familiar.

45 While some scholars equate emotional dimensions with affective dimensions, it makes more sense to draw a clear line between direct affect and the types of information processing that occur in emotional dimensions. What they have in common is that they refer to types of information processing that are often subconscious and trigger our most primal feelings and emotions. In the context of this book, I propose that direct affect should be defined by the actual lack of involvement of the long-term memory, while emotional interference (similar to behavioral and cognitive interference) is defined by its involvement.

As Hagerty, Lynch-Sauer, Patusky, Bouwsema, and Collier (1992) have noted, a sense of belonging can be understood as "the experience of personal involvement in a system or environment so that persons feel themselves to be an integral part of that system or environment" (p. 173, as cited in Zhao, Lu, Wang, Chau & Zhang, 2012). If we use once again the example of having a coffee with a friend, a positive interfering sense of belonging might be the foundation of our friendship in the first place and might be a major resource for enabling further engagement. If we have not met our friend for a long time, the occurrence of emotional interference may give us the opportunity to maintain a sense of intersubjectivity and will help us to further invest in the relationship.

These particular features of an interfering sense of belonging suggest that social interference may operate differently in emotional dimensions than in behavioral or cognitive ones. Following this logic, it should make a difference whether someone's memorization of relational information is mainly based on an *interfering experience of interaction*, *interfering character traits and features*, or on an *interfering sense of belonging*. For any experiencing of social relationships, it seems significant whether an individual experiences social interference primarily through physical interaction, an observation of character traits and features, or a deep sense of belonging. All three dimensions offer different types of social identification with interactants. While we cannot fully separate them, since they are not entirely exclusive to each other, they may affect, complement, or even disrupt each other in their production of relational information.

4.7 *Relational Knowledge as the Foundation for the Perception of Social Relationships*

The inclusion of social interference as a concept made it possible to propose that the processing of social presence could provide us not only with knowledge about the interactant but also with information regarding our shared identity with the interactant in behavioral, cognitive, and emotional dimensions. It could be further assumed that the memorization of relational information enables individuals to develop a sense of intersubjectivity—and to further retrieve this shared identity as knowledge in future interactions. With this in mind, we can understand social interference as the foundation for the experience of social relationships, since it can be said to produce a unique sense of relatedness with other actors.

Furthermore, the idea of social interference allows us to address the experience of social relationships through a shared framework. Traditionally, our common understanding of social relationships is defined primarily by the idea of continuity. Above all, the idea that social relationships are moving in one

direction (from past to future) is closely tied to the way individuals perceive time. Most commonly, social relationships are thought to move from the past to the future in the course of a time flow (cf. David Deutsch, 1998).

In many ways, the idea of such a time flow reflects the way many people rationally make sense of social interactions and social relationships in their everyday life. If a person punches you in the face without reason, you would be right to avoid her for a long time, if not permanently. Most rational approaches to social interaction suggest that social behavior toward a specific person is primarily motivated by what we have learned from mutual past experience. Good examples are transformational approaches to trust (cf. Chapter 2), which suggest that it is trust's main function to lay the groundwork for the gradual positive development of a social tie in the future (cf. Lewicki et al., 2006).

According to this logic, individuals evaluate past experiences so that they can trust others by anticipating the future—a very economical approach. While this may be a nice thought, social relationships do not move one-directionally and just become better or worse. According to Lewicki et al. (1998), a main problem in the exploration of trust and social relationships is the false assumption that relationship homeostasis is driven by the ideas of balance and consistency, and that relationships are often simplified "to a single point along a continuum ranging from reciprocated positive to reciprocated negative sentiment" (pp. 442).

The idea of consistency or continuity in social relationships is a helpful heuristic principle[46] that can provide individuals with a sense of security, but as a theoretical concept, it is highly flawed and may not at all represent the actual operating principle behind the experience of such relationships. Such logic would suggest that a feeling of togetherness (or alienation) was the result of a continuous evolution of the relationship; it would suggest that individuals added up each experience with an interactant into one cumulative sum—the relationship. And it would also ignore the reality that individuals often find themselves in situations in which the past cannot be applied to the future. For instance, one could make the point that when someone is asked for forgiveness, they are basically being asked not to reconsider certain past experiences in their retrieval of knowledge for future interactions (whether they actually succeed in avoiding such retrieval is another question). In other scenarios, individuals

46 In the context of this book, I will refer to heuristic principles as the foundation of any rational thought, in the sense that rationality, whether conscious or subconscious, is based on the cognitive retrieval of a (common) logic. Thus, we could not form any expectation if we were not capable of applying this logic.

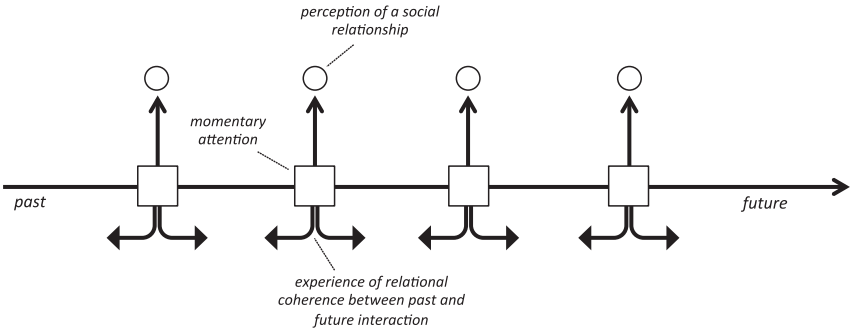

Fig. 4.4. Sequential experience of social relationships. As the retention and protention of the relationship (*lower arrows*) generate the experience of relational coherence at specific moments (*squares*), an individual's consciousness can experience social relationships (*circles*) toward other actors.

might simply forget or suppress certain experiences and will not be able to include them in their anticipation of the future.

For this reason, the concept of continuity may not be the best framing device to address the nature of social relationships, even though it can seem highly intuitive with regard to how individuals make sense of their environment. Instead of using continuity as a framework, I suggest picturing the experience of a social relationship as something that is perceived only at a very specific moment and without a time flow. It can be further assumed that individuals do not process social relationships all the time and continuously but are aware of them only when their attention is drawn to them at a *given moment*. Social relationships can potentially be experienced differently from moment to moment and might be more or less salient depending on how much attention is given to them at that particular moment. Most individuals do not constantly re-evaluate their shared history with their interactants frequently and all the time; what seems more significant is how related they feel at specific moments.

For this reason, it seems more plausible to think of a relationship as something that our mind experiences, or hallucinates (cf. Thomson, 2016), momentarily, even if it produces the illusion of a continuous entity that develops over time. This should not suggest that such a perception cannot exist over the course time, only that it is bound to isolated moments in which the mind "becomes aware" of the relation to another social actor. Instead of a continuity stream, in which one moment leads to another, it might be more helpful to understand

this type of perception as a *coherence stream*, in which one moment might more or less resemble the other moments (see Fig. 4.4).

The main difference here lies in the relation between the mind's retention and protention, meaning its observation of the past and anticipation of the future, respectively (cf. Schütz, 1974). In a continuity stream, the consideration of the past is the foundation of the consideration of the future. In a coherence stream, retention and protention exist at the same time, without any necessary causality or direction. Furthermore, it can be argued that on a basic level, both retention and protention cannot be easily distinguished, as they both highlight the future potential of the social tie. The main point here is that the past is often as unclear or blurry as is the future to human consciousness. Even if the past appears to be written in stone, our sensing of it can be as ambiguous and vague as our perception of the future often is. Of course, individuals have found many ways to memorize and research past incidents. However, they have also found plenty of ways to anticipate the future (the weather forecast is one example).

The same can be said about the individual experience of social relationships. Depending on the subjective focus, the past and future of that relation might appear more or less concrete. Following Schütz's (1974) phenomenological observations, it can be argued that individuals need to consider the past and the future to experience the social reality of the moment. In that sense, the experience of social relationships as well as trust is more likely determined by what is generally possible within the reality of that social tie at any given moment and based on the momentary and simultaneous consideration of both the past and the future.

Summing up, a coherence-centric approach, one that defines the experiencing of social relationships as a sequence of momentary impressions (or hallucinations), focuses on the individual's general knowledge of what is possible and what you are allowed to feel or do within the universe of a specific social tie at a precise moment. In this regard, the coherent retrieval of social relationships provides us with an individualized, actor-specific way of connecting with other actors. It can address what type of conduct is possible or likely for this particular universe, as well as what emotions and thoughts are appropriate. Thus, it produces a distinct sense of familiarity with the interactant.

In regard to the assumptions articulated in Chapter 1, such a perspective helps us to move away from the idea that social relationships are one-directional, time-spanning, and very abstract entities that can hardly be analyzed or approached scientifically. Instead, the perception of a social relationship can be understood as a momentary experience in which our brain tries to simultaneously make sense of the past and future of our interaction with another social

actor. This perspective is in line with approaches that define the formation of a subjective conscious reality as an ongoing "hallucinatory" process (Thomson, 2016). The idea of continuity, then, may be of significance later, when the experience with the interactant is, ex post facto, rationally evaluated by the working memory (cf. Chapter 5).

4.8 *Relational Knowledge as the Foundation for Trust*

Throughout this chapter, I have encouraged an approach to the experience of social relationships that is based on the central idea of social interference and prioritizes the momentary processing of coherence in our interaction with others. Furthermore, it seems plausible to conclude that the experience of a single relationship results from social interference and the coherent retrieval of relational knowledge. The more familiar individuals are with their interactants, the more they might rely on their contingents of relational knowledge in interactions with them. Using the concept of coherence, we can argue that each relationship that is experienced within a social multiverse offers a different degree of social identification and intersubjectivity.

Following this logic, it seems plausible that our sense of coherence within an experienced social relationship can be subject to interruptions and disturbances. A good way to emphasize how such disruption can lead to a rather fragile state is the break-up of a long-time romantic relationship. Following Jones, Couch, and Scott (1997), this becomes highly significant in situations where individuals feel betrayed and their formerly strong sense of intersubjectivity is deeply disrupted. If an individual's identity is heavily impacted by the social interference with her ex-partner, her mind will need to deal with that "gap" once it can no longer access the contingent of that specific relational information. Many parts of her life, such as her family, her taste in music, or her job, may have been affected by the processing of relational knowledge, since they have become part of a specific universe. To move past the relationship mentally, she needs to "refill" such "gaps," since the experience of social interference may have rewritten certain information in her brain (cf. Acevedo, Aron, Fisher, & Brown, 2012). While this is a rather extreme and emotionally charged example, it emphasizes how each experience of a social relationship opens the door to a new social reality—but only if it is perceived as coherent.

As addressed in Chapter 1, with expanding individual communication networks and the growing number of communication channels in modern societies, an individual's consciousness can potentially experience more social interference through digital technologies than through analogue media.

Especially in short-term interactions (such as online transactions), a distinct sense of coherence and relatedness can contribute heavily to a sense of security—or insecurity, depending on the situation. We must assume that individuals are usually not very conscious of the experience of social interference, but rather that it is a basic part of the subliminal means by which individuals process information about their interactants and just "happens" to them implicitly.

With this in mind, we can now approach the subject of trust. We have come a step closer to specifying what scholars like Endreß (2008) have referred to as the "operational" nature of trust—which suggests that trust must be understood as something that silently accompanies the experience of social relationships. As noted in Chapter 2, trust seems essential to the sense of relatedness and commitment in social interactions. It allows us to feel connected with an actor in a meaningful way during our interactions with her and to further engage with her with determination.

In the following chapter, I propose that trust is part of the basic algorithmic programming in the human brain that converts relational knowledge to a specific type of confidence during interactions with others. In this way, trust can be thought of as the result of our brain's ability to induce the experiencing of social relationships into our routine conduct. Following this algorithmic logic, trust may do more than provide interactions with confidence; it may also generally affect how individuals continue and maintain social ties over time.

5 *Trust and Relational Confidence*

Why a Sense of Intersubjectivity Lowers the Awareness of Conductional Risk

The idea that trust and the experience of social relationships are deeply related was one of the main assumptions presented at the beginning of this book. In order to provide a constitutional analysis of trust, it was necessary to first focus on how the experience of social relationships can be traced back to the processing of an interactant's social presence. A key point in this argumentation was that individuals experience a sense of intersubjectivity through the occurrence of social interference—an internal collision of information that produces a new type of information about the relationship itself.

Going through all of these steps was necessary to show that trust is not an isolated phenomenon but something that is integrated into the larger context of social relationships (cf. Chapter 1). In many common definitions, trust is regarded as highly isolated and independent, with many scholars assuming it is primarily of situational value (cf. Chapter 2). While there is some truth in the assumption that trust can be considered helpful in specific situations, we should think of it as directly interwoven with a general ability to experience coherent dyadic relationships. As the literature emphasizes, trust becomes significant whenever a sense of relatedness becomes crucial to our actual social behavior. Trust can have a significant impact on the continuation of a social tie—which in the end will also further impact the coherent experience of social relationships as part of interactions. In that sense, it seems plausible to frame trust as a functional component of the overall experience of social relationships.

Chapter 4 showed that any experience of social relationships is a rather fragile construct that requires momentary attention in order to achieve a sense of coherence. This general fragility stands in stark contrast to the level of interconnectivity that such experience or perception offers (and that was addressed in Chapter 1). As Blau (1964) suggested, relations and interactions that rely on the experience of social relationships are fundamentally different to ones that rely on formalized forms of conduct. Consequently, human communication networks can be thought to consist of different types of ties. Some may feature relations that depend heavily on formalized interactions, while others are predominantly motivated by the perception of relationships. Following Kunnel (2009), both types may offer different kinds of interactional exchanges

and types of conduct in human communication networks. What separates them from totally random interactions is that the conduct in such relations is predominantly guided by either common rules and sanctions (in the case of formalized relations) or an individual sense of relatedness (in the case of social relations). Thus, it is easier for individuals to interact with others as part of formalized and social ties than to engage in entirely random ties that do not offer such guidance.

One key feature that distinguishes different types of ties is the general awareness of *conductional risk* in social interactions.[47] Naturally, random ties offer a potentially high level of risk, since there are no conductional guidelines. Formalized ties feature a low level of risk, because most types of interaction can be determined by common rules of conduct. Ties that are characterized by the experience of social relationships, however, can potentially feature a more dynamic range of conductional risk because they largely depend on an individual's subjective sense of relatedness. Consequently, the degree to which a social tie is perceived as stable and risk-free depends on how the individual processes the relationship as part of his interactions.

We have seen that a sense or experience of relatedness can be highly beneficial for our interaction with others, even if it may result in a negative feeling of enmity or aversion. Such relatedness seems fundamental to how individuals bond with each other, especially in close and intimate ties. In the course of modernity, many social ties have become even more complex, as human communication networks have further expanded (cf. Giddens, 1991; Granovetter, 1983). Consequently, it is often difficult to experience modern social relationships as coherent and to further engage with interactants through a solid sense of intersubjectivity. This is especially true if there is not very much knowledge about the interactant's personality and sense of belonging, which may be the case in more anonymous social interactions that are, for instance, driven by digital technologies. But even in interpersonal, face-to-face scenarios, social interactions usually offer a high degree of complexity that can further stress our ability to process information about the interactant. Thus, they also feature a general level of riskiness.

As presented in Chapter 2, the literature has shown that many scholars consider the awareness of (conductional) risk a critical factor for any explanation of trust (cf. M. Deutsch, 1958). To address this often-noted link, I will devote this chapter to a further exploration of the significance of trust for the awareness of

47 For a definition of *conductional risk*, see Chapter 5.2.

risk. While many scholars have argued that trust would not exist without risk and even that trust provides a way of actively handling risk in social interactions (cf. Luhmann, 1979; R. C. Mayer & Davis, 1999), the position presented in this chapter does not necessarily suggest a direct link between trust and risk but argues that trust's activity as a part of the brain's basic algorithmic programming *may promote reduced risk awareness* in social interactions. Furthermore, the concept of risk should not be equated with the idea of danger. In the context of this book, "danger" shall refer to a possible event, while "risk" shall refer to the subjective difficulty of fully comprehending the likeliness of such events.

To further elaborate on this, let me address the specific role of risk in social interactions. Many examples that are used to emphasize the value of trust (especially in the context of laboratory experiments) feature highly threatening events such as imprisonment, death, or the loss of high amounts of money to another person (cf. Lewis & Weigert, 1985, p. 975). Such examples stand in high contrast to the notion of trust as something so basic and essential that it could accompany any perceived social relationship. Furthermore, it does not make any sense to imply that the perception of risk is an absolute requirement for the presence of trust. Quite the contrary may be even true. As Lewicki et al. (2006) have noted, a high level of trust can even give individuals the impression that there are no specific threats or dangers associated with a specific interaction.[48]

For this reason, I suggest turning away from a perspective that defines trust entirely through the presence of imminent and highly salient dangers. As social actors are often unpredictable and inconsistent in their conduct, any social interaction can feature elements that are difficult to anticipate and foresee. This does not necessarily mean that these interactions are necessarily dangerous. As Luhmann has noted, it makes more sense to talk about trust whenever we consider the general contingency of social interactions:

> [Trust] serves to overcome an element of uncertainty in the behaviour of other people which is experienced as the unpredictability of change in an object. In so far as the need for complexity grows, and in so far as the other person enters the picture both as alter ego and as fellow-author of this complexity and of its reduction, trust has to be extended, and the original unquestionable familiarity of the world suppressed, although it cannot be eliminated completely. (Luhmann, 1979, p. 22)

48 There may be a fundamental paradox in how scholars have related to trust—as it is often not specified whether trust exists because humans are aware of risk as part of their social interactions or whether trust prevents them from perceiving risk in the first place.

Following Luhmann, it seems highly unlikely that there could be any social interaction without a level of contingency—even if it is not something that humans are consciously aware of all the time. Thus, we must assume that the general processing of risk is the norm in social interactions, even if it is not always salient. As part of their information processing, individuals might generally be aware of the possibility that the interaction will not turn out as they expected or that the other side might act in an entirely unpredictable way. It is this general idea of *conductional vigilance*[49] that first needs to be discussed before I can address trust's specific role and function in social interactions. Contrary to the awareness of specific situational dangers or harmful events, conductional vigilance refers to the more general and omnipresent challenge of risk in social interactions.

5.1 *Conductional Vigilance*

The idea of vigilance is a recurring issue in the literature on trust. It addresses a general alertness regarding the awareness of risk and potential misconduct in interactions. For instance, Sperber et al. (2010) have noted that trust can be considered beneficial whenever individuals become epistemically vigilant regarding the testimony of their interactants. These benefits are especially relevant whenever nonspecialists need to rely on the testimony of experts (cf. F. A. Hendriks, Kienhues, & Bromme, 2016). Furthermore, different types of vigilance regarding trust have been discussed in the literature. In the context of this book, the concept of "conductional" vigilance is limited to the realm of social interactions and addresses how individuals are vigilant regarding their interactant's conduct or the general conductional rules of that situation.

Taking this into account, conductional vigilance addresses the challenge to the human mind of anticipating the future conduct of other social actors during interactions. As the future of any social interaction is potentially open, the working memory needs to deal with different "what-if" scenarios and determine which are potentially possible, even if they are not definite. Following Luhmann (1979), such (interactional) contingency can appear in any kind of social interaction, as individuals are often insecure about how the other side will act. Naturally, people are used to experiencing surprises or unpredicted

49 In the article on *relational trust* by Kunnel and Quandt (2016), the term *social vigilance* was used. The change to *conductional vigilance* was made to address the specific *interaction* rather than the general social nature of the relationship.

behavior in interactions with other actors, who are often inconsistent in their behavior. Social interactions are universally bound to the general dilemma of unpredictability, as there are no behavioral rules or sanctions written in stone (as opposed to formalized interactions) (cf. Schütz, 1974). They present an individual challenge for our working memory, as our mind will try to figure out how to deal with the difficulty of anticipating the other side's behavior.

It can then be assumed that conductional vigilance is an essential part of any interaction that could develop differently depending on the type of relation. In *new* or *random* relations, individuals might profoundly struggle to anticipate the interactant's conduct, as their working memory needs to deal with contingencies that are at play within the realm of that specific interaction. In *formalized* relations, conductional vigilance may occur whenever the standard rules of conduct cannot be further applied to an actual interaction and individuals need to figure out on their own how to deal with these exceptions (cf. Kunnel, 2009). In *social* relations, conductional vigilance can inherit an even more significant role, as the outcome of social interactions is often indefinite; at the same time, however, a feeling of security may be achieved through social interference and a sense of relatedness. Let me illustrate this distinction with a simple example.

In the class of an elementary school, the social interaction between teacher and a student is usually based on a clear set of rules. Consequently, we should consider this relation a formalized relation. Still, their relation might also be impacted by social factors. For instance, the student might visit the teacher in the hope of discussing a personal issue, like his situation at home. Or, to use a more negative association, the teacher might find the student challenging and unpredictable due to his history of aggressive behavior in the classroom. Both of these scenarios are characterized by a higher degree of conductional vigilance, as it might be hard to anticipate how the other side will react and how this will impact the relation in general (even if there is a formal protocol or both participants have potential scenarios in mind). It is more likely that each side perceives the other as an independent social actor who owns a free will and whose conduct might be hard to anticipate in such situations.

The example reflects the idea that conductional vigilance can be understood as a concept that refers to both positive and negative eventualities. It does not necessarily imply that something is wrong. It only suggests that in the human mind, an additional workload is needed whenever our mind fails to comprehend interactional contingencies within the realm of a particular social interaction. These contingencies can be of a harmful nature; they might make the interaction more intimidating and confront one with potential dangers that

could result from future interaction. Or they can be highly positive, rendering the interaction more powerful and allowing us to see opportunities to bond with an interactant. Both scenarios suggest that the interaction is dynamic and that our scope of action is changing in the course of our exchange. For this reason, it seems more plausible to frame conductional vigilance as the *additional cognitive workload* that is required whenever individuals fail to process interactional contingencies and are aware of conductional risk.

5.2 *Conductional Risk and the Inability to Process Contingencies of Social Interaction*

The general observation of conductional vigilance as a common feature in interactions allows us to address the issue of (conductional) risk from a perspective that considers the likeliness of both positively and negatively connoted events. As I have noted, many parts of the literature frame the word risk as a synonym for danger, and often refer to explicitly negative interactional contingencies that must be overcome (cf. R. C. Mayer et al., 1995). In this tradition of trust research, "risk" refers to what could potentially *go wrong* as part of social interactions. Hence, the concept of trust is mostly discussed as part of potentially dangerous situations. As I have noted, nowhere is this more evident than in the field of behavioral psychology, in which trust has been researched as part of a strategy to deal with explicit dangers and dilemmas—and the presence of suspicion (cf. M. Deutsch, 1958). Even beyond that, a large part of the literature considers primarily the negative connotations to risk (and the positive connotations to trust).

The economic literature on risk, however, paints a much more complex picture than scholars have suggested in discussions of trust dominated by psychological approaches (cf. Boon & Holmes, 1996; Colquitt, Scott, & LePine, 2007). Because conductional vigilance can be thought to occur whenever our working memory fails to properly process the contingencies that are part of a social interaction, it makes sense to understand the issue of risk as an equally neutral entity. In this sense, conductional risk does not refer to the singular contingency of danger in an interaction, but to a mental state that is characterized by the individual's general inability to process or sensorially predict the contingencies of that interaction. Following the definition of Renn and Klinke (2003), we can assume that awareness of risk in social interactions results from an insufficient information status about the conduct of that interaction and its contingencies. Because of this insufficiency, it will be hard for our working memory to get a clear sense of what to do next. To illustrate this, let me use an

example in which an individual might be confronted with risk in the course of social interaction.

Imagine a friend asked you to lend him a significant amount of money. He promises to return it to you after one month. Because of your friend's flakiness, you can see the danger that he might not return the money on time. This presents a negative contingency, a more or less likely future event that you would generally consider whenever you lend someone money. Furthermore, you might have serious difficulty in rationally predicting how likely it is that this contingency will actually occur. Because there has not been a similar situation before between you and your friend, you do not know how to maneuver this interaction comfortably. This vigilance might result in individual stress or your inability to further reciprocate to your satisfaction. Depending on the level of friendship and your familiarity with each other, your decision to lend your friend money might vary. In the situation, your mind could not efficiently deal with the contingencies of that interaction. Therefore, it was confronted with conductional risk. Since you found it difficult to reciprocate with your friend because of this insufficient information status, you became conductionally vigilant.

Based on these assumptions, we should understand that conductional risk is highly subjective and must be understood in terms of how individuals struggle to process interactional contingencies in the course of their interactions. Instead of using it as a synonym for danger, we may use it to refer to the individual's inability to deal with such a contingency[50] and further understand it as an essential part of the action-oriented predictive processing in the human brain (Clark, 2013). In many ways, risk can be seen as a basic prediction error. According to Renn and Klinke (2003), there are three general conditions or types of contingencies under which it becomes an issue: *uncertainty*, *ambiguity,* and *complexity*. These types of insufficient information statuses make it difficult for individuals to predict, or anticipate, conductional contingencies as part of their social interactions and can, according to the authors, affect

50 Still, humans are capable of relying on other actors and are not constantly alarmed when interacting with other actors. Our social environments usually offer behavioral routines, rules, and sanctions that we perform and that we also expect from others (this can be true for both professional and intimate social ties). In that way, we might not suspect our friend to not return the money on purpose and deviate from the normative behavior that we are used to; yet his general "fallibility" as a human being might be part of our reflection, as he has indeed behaved unreliably in the past.

interactions with both individual and systemic actors (cf. Renn, Dreyer, Klinke, & Schweizer, 2007).

First, "uncertainty" refers to the idea that the probability of a future event cannot be exactly predicted or anticipated sensorially. For example, if your friend is asking you for money, you might find it difficult to anticipate whether it is likely, most likely, or unlikely that he will return the loan.

Second, "ambiguity" refers to the idea that two or more contingencies might share the same probability. Using the same example, you might find it equally likely that your friend will return the money or not at all. This ambiguity might be the result of contradictory information sources (cf. Chapter 7). For example, a work colleague of his may have told you that he is a reliable person, while a mutual friend of both of yours may have told you he has a criminal record. For this reason, you perceive both scenarios as equally possible.

Third and last, "complexity" refers to the idea that you are not capable of anticipating the probabilities of interactional contingencies at all—you simply cannot tell. This complexity might occur due to the lack of sufficient information, or conversely, to an overwhelming amount of information. In either case, your consciousness will process difficulties in the attempt to deal with the contingencies of that interaction.

The distinction between uncertainty, ambiguity, and complexity is a useful device for further clarification of conductional risk as a type of "confusion" about contingencies in interactions. It also emphasizes that our working memory is challenged by conductional vigilance whenever we cannot foresee contingencies because they are uncertain, ambiguous, or complex in nature. Such a perspective helps us to frame conductional risk as a fundamental part of the comprehension of social interactions.

In spite of all the negative examples surrounding the issue of risk, it must be noted that the awareness of conductional risk refers not only to an insufficient information status about the potential negative events associated with another actor's conduct but also to the positive events with which it might be associated. If we start working with a new team, we might find it hard to anticipate whether our relationship to our new colleagues will be entirely work-based or might lead to new friendships. We might be eager to make new contacts but will also be careful to not offend someone by getting too private or intimate in conversations. Even if we easily became close friends with some colleagues, conductional vigilance might still occur whenever the existence of potential dangers and opportunities is difficult to anticipate. Even in the most harmonious, intimate, and steady social relationships, actors can be confused about interactional contingencies and might find it hard to anticipate the other side's

future conduct or potential opportunities. In that sense, any type of social relation—harmonious or not—may confront individuals with a degree of conductional risk.

5.3 *Additional Factors Influencing the Experience of Conductional Vigilance*

Through a further exploration of risk, it was possible to define conductional vigilance as a particular alertness that is experienced in the course of social interactions. Individuals may differ profoundly in how they develop conductional vigilance in the course of interactions. As every social interaction is different, the level of risk awareness and its salience can vary from context to context and person to person. While it is possible that some individuals can rationally make sense of their alertness, others may just react with an implicit feeling of unrest or anxiety. There are a few factors that could influence this:

Individuals might be influenced by their general *history* of social conduct in their experience of social vigilance. They might already have developed a routine strategy when being asked for money, even before a friend asks them. If you are a billionaire, you might not find the scenario of a friend asking for a significant amount of money exceptional at all. The broader argument here is that conductional vigilance does not necessarily result exclusively from our specific interaction with our friend but may result from previous experiences. If for instance, we have lent friends money before, we might be more careful the next time—or we might decide that we do not want ourselves to get into a similar situation again. Based on their experience, individuals tend to be more careful, or optimistic, with some interactants than with others.

Furthermore, it does make sense to consider the *dispositional attribution* and *situational attribution* of an individual's experience of conductional vigilance. Individual dispositions such as high emotional intelligence might influence how anxious or optimistic individuals interact socially with others. In some more extreme cases, as in the context of mental illness or personality disorders, this may become even more evident, as individuals suffering from such problems or disorders might show particularly low or high levels of conductional vigilance when interacting with other social actors. Still, the idea of individual dispositions impacting conductional vigilance is highly speculative, as only future psychological research can show exactly how they are related. What can be assumed, though, is that the presence of conductional vigilance might strongly impact how individuals subjectively embrace their social

environment, or to what degree they are overwhelmed by social interactions with other actors.

Apart from dispositional factors, situational attribution may also highly impact an individual's experience of conductional vigilance as part of social interactions. The situation itself may affect the way an individual becomes conductionally vigilant. For instance, it might confront him with an overload of information or, conversely, a complete lack of information; it might also raise the level of ambiguity or uncertainty through external stimulation. Any new incident or information might potentially raise our awareness of conductional risk. If a friend wants to borrow money from us, we might ask mutual friends about their opinion. Depending on the answer, our conductional vigilance might rise or decline in that situation. Similarly, we might gain new information just through an observation of our friend or some kind of research before we make a decision. As individuals can find and receive actor-related information online and through different digital communication channels today, their conductional risk awareness might be more than ever impacted by *external stimuli*—especially when dealing with larger types of social actors such as groups or institutions.

Apart from this, many individuals are required to perform in different contexts and different roles as part of a social tie's *multirelationality* (cf. Chapter 6). In their work environment, they might play another role than they do in their private spaces; this, too, has the potential to affect conductional vigilance. The different personas of an interactant and his social presences can quickly heighten one's sense of ambiguity and complexity. We might be insecure or confused on whether interactional contingencies are determined by the other side's professional or private sense of conduct; or we might have difficulties making sense of contingencies at all within an interaction, because the dissonance appears to be too complex.

For any further exploration of the linkage between trust and risk, it is necessary to note the existence of conductional vigilance as a natural characteristic of social interactions rather than the exception. Above all, it should be considered the result of an additional workload of the working memory. What we can conclude at this point is that the awareness of conductional risk will heavily impact how vigilant we are in our interactions with other social actors and how much our working memory is busy figuring out ways to comprehend the interaction.

5.4 *Conductional Vigilance as Part of Trust's Operating Range and Efficacy*

The idea of conductional vigilance, a general uneasiness and anxiety that individuals perceive as part of social interactions, has allowed us to reconsider the distinct relationship between trust and the awareness of risk that has been addressed in vast areas of the literature (cf. Chapter 2). Instead of seeing risk(s) as dangers that we have to solve rationally as part of social interactions, the idea of conductional vigilance allows us to understand risk and the difficulty of sensorially processing interactional contingencies as an underlying information insufficiency in the processing of social interactions. Since any individual or social actor is to a degree unpredictable in his conduct—as are most situational circumstances—any social interaction offers a potential for conductional vigilance.

If conductional vigilance can lower the quality of our social performance as well as our well-being in social interactions, our behavior and motivation may rely on additional help from other sources. In many ways, the scientific exploration of trust shows that individuals can effectively avoid the experience of conductional vigilance through a sense of relatedness. One might even assume that if trust did not exist, our cognition would be consistently busy trying to find rational solutions to the problem of conductional vigilance. It can then be assumed that trust's functionality does not lie in solving or overcoming the problem of conductional vigilance (e.g., through positive expectations), but that its operating range and efficacy may affect and even prohibit the development of such vigilance in our brain in the first place. Thus, there can only be an indirect linkage between trust and the awareness of risk.

In the following, I will further address the idea of trust as part of the basic algorithmic programming in the human brain and suggest that it supplies our brains with a specific type of *confidence* that is deeply rooted in our memorization of relational information. Across the trust literature, the concept of confidence has become a frequent companion to the exploration of trust. We have seen in the literature review in Chapter 2 that scholars have related trust to a specific sense of confidence in other social actors. Therefore, I propose that trust as a mental algorithm supplies us with a distinct type of confidence that lowers the awareness of risk.

As I have noted, any perception of a social relationship offers a sense of reliability and security, even if it is based on enmity or hatred, gives individuals a coherent sense of how to emote and behave as part of ongoing social ties, and opens up a very distinct and unique social reality. By supplying the human brain with relational confidence—a confidence emerging from this specific relational

knowledge—trust, as a mental "program" in the brain allows us to feel secure in our conduct and can generally lower our awareness of conductional risk (and interactional contingencies).[51] Hence, it can be assumed that one of the main effects of relational confidence is to reduce the emergence of conductional vigilance on a very basic level. To further demonstrate this, we need to address the general and more basic issue of confidence first, before we can get more specific about trust's supply of *relational* confidence.

5.5 *Trust and Its Supply of Relational Confidence*

So far, I have argued that trust prohibits conductional vigilance through a supply of relational confidence. If we reconsider the extensive research literature on trust, many scholars assume that trust is related to something like an additional "leap of faith"; a kind of gut feeling that exists beyond sheer rationality that may be present before our cognition tries to access social interactions through rational thought (cf. Möllering, 2013; Plotnick, 2006; Van De Walle & Six, 2013). It makes sense to understand trust as something that provides individuals with confidence before rationality is at play or before such rationality can be applied to the situation. Consequently, trust and its distribution of relational confidence can be thought to be active even before the occurrence of any cognitive evaluation of the situation.

The term "confidence" has been associated with a lot of different meanings. In some contexts, such as self-confidence, it is considered more of a character trait, while in other contexts (such as decision-making) it is seen as more of a temporary mental state (Lenk, 2010). For this reason, confidence is a rather broad term used to describe many different things. In consideration of these multiple definitions, let me introduce my own definition, which focuses explicitly on its role for the processing of information in the context of social interactions. In this particular context, I will use the term confidence to refer to the automated and unfiltered implicit retrieval of knowledge in the human mind whose function is to improve social performance in the interaction with other actors.

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51 It has to be clearly noted that in the context of this book, trust is defined as an algorithm in the human brain, while relational confidence is understood as the process that is initiated by the algorithm. This distinction seems highly important, as many parts of the literature make no clear distinctions between these different entities or present trust either as the outcome of an internal process or something that constitutes such an outcome (see Chapter 2).

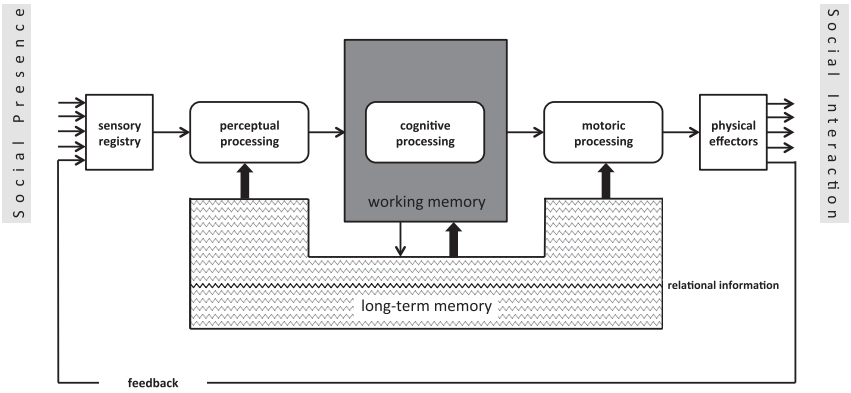

Fig. 5.1. Trust's automated supply of relational confidence. Through the automated retrieval of relational knowledge, trust implicitly provides the perceptual, cognitive, and motoric information processing of the human mind with relational confidence (*wide arrows*) during social interactions.

To explain this, let us return to the basic model of human information processing by Streitz (see Fig. 5.1).

As I have noted, the working memory can both provide the motoric system with instructions, and provide the long-term memory with information that is further memorized and retrieved as knowledge. The arrows in the model suggest that the author assumed a mostly one-directional flow of information. However, the model establishes human information processing as a dual process, considering that the more explicit functions of working memory and the more implicit functions of long-term memory are related.

If we look at the arrows that originate from the long-term memory (see wide arrows), we can see that it provides all three types of processing with input. In that sense, not only the cognitive system but also the perceptual and motoric systems can be supplied with knowledge from the long-term memory. While traditional approaches may assume that knowledge can be retrieved only cognitively—for instance, whenever humans think about past experiences—Streitz's model suggests that human beings are also capable of retrieving knowledge perceptually and motorically. In the context of social interactions, such knowledge will affect not only our thoughts of our interactants but also our instant impression of them, as well as our physical response to them.

For this reason, the implicit and automated retrieval and supply of knowledge[52] to perceptual, cognitive, and motoric information processing should be termed "confidence" in the context of this book. On a conductional level, confidence comes into play whenever individuals are implicitly supplied with knowledge in order to put them at ease during social interactions. Thus, any supply of confidence produces a link between memorized knowledge and its integration into our habitual practices and should be thought of primarily as part of a regulative mechanism that determines how comfortable we feel or how determined we are in our interactions with others. This mechanism might manifest itself in something like a gut feeling or a mood or even remain unrecognized during social interactions. However, it may heavily impact an individual's social performance.

On a frequent basis, the long-term memory might supply us with different types of confidence. It may, for instance, retrieve knowledge of behavioral protocol so that we can perform every-day routine practices based on this behavioral confidence; it may also supply us with self-confidence based on knowledge about ourselves (and the success, or legitimacy, of our own conduct); or it may provide us with confidence in our interactants based on the actor-related information that we have previously memorized. In a team of professionals, for instance, we might be confident that our colleagues know how to do their job—which makes it easier for us to do our job.

Understanding the implicit value of confidence allows us to gain more insight into what drives individuals to interact with ease in social interactions, and how the lowering of conductional vigilance relies on an individual's specific knowledge and personal experience. While it seems reasonable to assume that the human mind can retrieve different types of knowledge as confidence (and might do so simultaneously), the retrieval or relational knowledge offers a unique type of confidence. It allows individuals to be confident based on the very distinct experience of social interference. Because any perceived social relationship opens the door to a specific social reality and is deeply tied to our sense of self, relational knowledge is a highly effective foundation of confidence.

In contrast to other types of confidence that our mind can retrieve within social interactions (such as confidence in general behavioral routines, the

52 It seems important to remind the reader that the definition of *knowledge* used in this book refers only to the retrieval of memorized information itself and does not suggest, on a qualitative level, the concept of a fixed and persistent state of knowledge about something.

confidence in one's own behavior, or in our interactants' rightful behavior), relational confidence seems of particular value, because it is specifically related to a unique sense of intersubjectivity with an interactant, whether this interactant is another individual or a more abstract actor such as a group or institution. In a social multiverse, each relationship comes with its own degree of identification (cf. Chapter 3); for this reason, each type of relational confidence is unique, as the level of identification and perception of a social relationship will differ from interactant to interactant. It seems plausible to assume that each perceived relationship allows us to access a particular sense of connectedness that has—metaphorically speaking—its individual ID.[53] Our mind can draw confidence from everything that we perceive as part of a special intersubjective connection between the interactant and us. Whether this connection is part of a friendship or a rivalry, the type of confidence drawn from this knowledge is unique to our identification with the interactant.

In light of this, we can assume that any perception of a social relationship provides us with a specific shared sense of conduct within that particular social tie. It seems plausible that relational confidence will lower the experience of conductional vigilance more effectively than most other types of confidence, because it directly accesses our sense of self and social identification, presumably on a very intimate level.

Following Streitz's model, relational confidence might not only prevent individuals from perceiving conductional vigilance in the first place but might further keep them from rationally recognizing and evaluating interactional contingencies. Or it might prohibit any further motoric reaction. This does not apply only to optimistic types of confidence. If for instance, an individual is confident that another interactant is generally looking for trouble, this will frame his perception of the interactant's social presence (e.g., by framing him as a trouble-maker), it will further help him to cognitively predict the person's conduct (e.g., by anticipating a conflict situation), and it will set up his physical response to them (e.g., by making him anxious). What all of this shows is that, because individuals often engage with other interactants based on their sense of relatedness, the memorization of relational information and the general experience of social relationships may have a major impact on social interactions.

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53 This might be different if two interactants represent the same social group that we perceive as the initial interactant. In this case, we might produce a similar type of relational confidence toward the group, and consequently both of them as representatives of the group (cf. Chapter 6).

Following this assumption, we can further explore trust's role as part of the brain's algorithmic programming in the distribution of relational confidence. Taking into account that any supply of relational confidence follows a common operating principle, it makes sense to understand trust as a program that triggers and coordinates any supply of relational confidence as part of our information processing.[54] The notion that trust must be considered a distributor of relational confidence may be counter-intuitive to many common approaches to trust, in which it is often defined as the output of a process (rather than the source of a process). Yet, it allows us to address trust less as the result of cognitive processes and rational evaluation than as something more basic and essential to our interactions with others: an implicit automatism that will supply us with relational confidence in the course of social interactions. Such a perspective will also allow us to explain why most people are not necessarily aware of their trust for most of the time. Consequently, the idea of "trusting" (or to be more specific, the production of relational confidence toward) someone would not then refer to a conscious behavioral act but to a bodily reaction prior to it. It might affect our cognition, but it may also be something that individuals can seldom control.

While the idea of a gut feeling is metaphorical to a certain extent, current research has demonstrated that the gut and the brain are actually connected, and that "this interaction plays an important part not only in gastrointestinal function but also in certain feeling states and in intuitive decision making" (E. A. Mayer, 2011, p. 1). Following Mayer, this bidirectional communication system is "likely to have multiple effects on affect, motivation and higher cognitive functions." Hence, it does not seem too far-fetched to assume that the way our brain processes information can have a highly physical effect on our bodies (and vice versa), especially in our social performance with other interactants.

According to Kandasamy et al. (2016), scholars should further explore the "role of somatic signals, in other words, the body, in guiding our decision-making and behavior and, crucially, our risk taking" (p. 5). Most commonly, such somatic signals are understood to be part of one's interoceptive percepts, which include more signals than those coming from the gut:

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54 As a matter of fact, the idea of trust being a *mental algorithm* strongly evokes associations of the information processing metaphor, which depicts the human brain as a computer. From a communication theory perspective however, concepts like mental algorithms are primarily meant to address how trust and relational confidence are constituted, and how basic they are to human information processing and social interaction.

> Physiologists often use the term "gut feeling" as a colloquial synonym for any interoceptive sensation that guides behaviour. These sensations carry viscerosensory information and may originate from many tissues of the body, the heart and lungs, for instance, not just the gut. Interoception differs from exteroception, which is the sensing of the outside world through sight, sound, touch, etc.; and from proprioception, which is the sensing of the body's position. (Kandasamy et al., 2016, p. 1)

If we take a look at the (altered) Streitz model of human information processing, we can conclude that the social presence of an interactant is an exteroceptive input that can, due to human information processing, result in interoceptive signals that will further impact our social performance and our ability to reciprocate[55] as part of the brain's predictive coding. Following Seth (Seth, 2013), "the close interplay between interoceptive and exteroceptive inference implies that emotional responses are inevitably shaped by cognitive and exteroceptive context, and that perceptual scenes that evoke interoceptive predictions will always be affectively coloured" (p. 571). Following the ideas presented in this chapter, the retrieval of social confidence and more specifically, the retrieval of relational confidence, are connected to such gut feelings.

According to Tsakiri, Tajadura-Jiménez and Costantini (2011), the "[a]wareness of one's body is intimately linked to self-identity, the sense of being 'me.' [. . .] A key question is how the brain integrates different sensory signals from the body to produce the experience of this body as mine, known as sense of body-ownership" (p. 1). The role of trust, then, can be seen in terms of how it converts specific exteroceptive signals (the social presence of a person) that have undergone a particular type of information processing (social interference) into specific interoceptive signals (relational confidence). We can conclude that trust serves the algorithmic function of supplying human consciousness with relational confidence as part of one's social performance.[56] Taking this into account, trust should be understood as an implicit supplier of relational confidence that is continuously at work as a regulator in the homeostasis of social interactions—most significantly by lowering conductional vigilance.

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55 On the other hand, the perception of social presence may also be highly affected by interoceptive sensations.

56 As we have seen, the idea of social interference addresses the idea that the human brain uses both exteroceptive signals (about the interactant's identity) and interoceptive signals (about one's own identity) to memorize a sense of "shared identity." Only through such convergence is the human mind capable of perceiving a feeling of intersubjectivity as well as a coherent social relationship toward another social actor.

5.6 *Trust as Prior to Cognitive Evaluation, Rationality, and the Building of Expectations*

The approach presented in this chapter allows us to consider trust as deeply rooted in the experience of social relationships. By creating a shortcut, trust allows our consciousness to regulate or entirely bypass conductional vigilance in social interactions. Contrary to many traditional approaches, trust is not understood as the result of an individual's cognition—it is mostly defined as *pre-cognitive*. Trust is at work before our working memory can process interactional contingencies or deal actively with conductional vigilance.

Addressing trust as a part of such pre-cognition helps us to distance ourselves from a perspective in which trust is defined in the context of the building of positive expectations (cf. Lewicki et al., 1998).[57] Such views are usually built on the general idea of rationality and assume that trust should be defined in terms of replicable logics that allow individuals to either make key assumptions about an interactant's future behavior or to develop a strategic willingness to be vulnerable for the sake of achieving a particular goal (cf. Chapter 2). These applied logics can be based on one's own experience or on expert knowledge, but they may also be based on bounded, reduced, or even "false" sets of information. In the context of trust research, rationality is often used to explain why an individual would further engage with another social actor besides their awareness of risk. Based on this position, some scholars have argued that trust must be framed part of a cognitive evaluation of an interactant that will lead to explicitly positive expectations about the outcome of the interaction or the interactant's future conduct (cf. R. C. Mayer et al., 1995).

While the framing of trust as part of an evaluative problem-solving strategy is quite tempting, it makes more sense to understand trust as something that is active before our working memory can deal with the contingencies of social interactions and build expectations about an interactant's future conduct. Rationality is a cognitive resource that allows us to reduce conductional vigilance through thought-processes; it allows individuals to reduce their confusion about future contingencies mostly through the building of expectations, through which they can, for example, predict single future scenarios that seem

57 We saw in Chapter 2 that this position can be found not only in fields such as social economics or computational science, which often use rationality to predict human behavior, but also in psychological research, where trust is often defined in terms of a certain *willingness to be vulnerable* (cf. R. C. Mayer et al., 1995)—which arguably requires the building of positive expectations.

most probable to them. Trust's supply of relational confidence, on the other end, is much more integral to the basic perception of our interactants during social interactions, since it determines whether individuals process interactional contingencies about their social interactions in the first place. It might prevent us from becoming conductionally vigilant, but beyond that, it might also further affect our ease in interactions in other dimensions, such as our general well-being.

Taking all of this into account, the building of expectations becomes sensible whenever relational confidence (or any other type of confidence) is *not enough* to provide one with ease in social interactions—and when our brain is busy finding rational solutions to an insufficient information status about interactional contingencies. Let me use an example to illustrate this.

Imagine this time it is not a friend who asks you for money, but a homeless person on the street. He looks kind of shady and has horrible alcoholic breath. As you have no shared experience with this man (and do not feel particularly dyadically experienced with homeless people as a social group), you are not supplied with relational confidence and will not particularly "trust" or "distrust" the man. On a very basic level, you are overwhelmed by the experience of conductional vigilance, which could manifest itself in some kind of performance anxiety. You don't know how to react. For some reason, it appears logical to you that if you give the man money, he will use it to buy another bottle of alcohol. Even if you are aware that you cannot predict his conduct, such a probability might seem really likely to you. Since you do not want to support the man's alcoholism, you decide not to give him any money. Instead, you walk away and ask him to seek help at the homeless shelter a few blocks away.

Even if your behavior might not have been helpful (or solidary) at all, it was in a way rational, because your decision appeared plausible to you. Your behavior followed the assumed logic that beggars who smell of alcohol would ask for money with the intention of buying more alcohol; it was also impacted by basic stereotypes. Although you were aware that your assumption might have been wrong, you formed an expectation; your working memory was capable of overcoming conductional vigilance by creating a specific future scenario, even if your trust did not supply you with relational confidence. Consequently, you were capable of reducing the insufficient information status through additional workload in the working memory, which allowed you to react further and reciprocate (and not give the man any money).

However, you might have acted in an entirely different way if the man turned out to look almost identical to yourself, or if he had worn a fan-shirt of your favorite rock band (to use a familiar example). In that hypothetical case, your

trust may have supplied you with a degree of relational confidence based on an interfering sense of belonging and further affected the outcome of your interaction prior to your cognitive evaluation.

5.7 *Trust as a Mental Algorithm*

In this chapter, I have framed trust as a rather small part of a larger process that bears an essential role for the way individuals navigate their social multiverse or engage with each other in human communication networks. The essential thing to note here is that such a process is not based on rational choice theory—even though it integrates the idea of rational behavior and the management of expectation into its wider framework. For instance, relational confidence might interoceptively impact our decision-making and expectation management by adding a more intuitive layer, which can also affect not only our general perception and motoric functions but also our emotions (cf. Seth & Critchley, 2013). If individuals are relationally confident, the need of their consciousness to work things out rationally will presumably decrease.

The primary distinction here is that while rationality is thought to produce a *certainty* of conduct through the inference of heuristic principles and the building of expectations, relational confidence provides an *ease* of conduct as part of one's social performance even before rationality kicks in. While the building of rational expectations requires cognitive workload, the retrieval of relational confidence as part of our consciousness is the result of an implicit and often interoceptive retrieval of knowledge and does not necessarily need the working memory or the self-awareness of metacognition to be active in the first place (cf. Seth, Edelman, & Baars, 2004). For this reason, I have referred to it as "pre-cognitive." Simply speaking, it is often easier to rely on confidence than to build expectations formed through cognitive workload. Trust makes social interaction easier and more comprehensible—as the need to clear contingencies and build expectations will be lowered in very effective ways. Conductional vigilance, then, can be considered one of trust's most significant areas of efficacy. This is also in line with aspects of the more current trust literature that claim that trust has an underlying "operational" functionality and works outside of rational behavior (cf. Endreß, 2008; Lewicki, 2003). In many of these approaches, trust cannot be measured only through the way individuals build rational expectations, since it is often characterized by an intuitive gut feeling. While some scholars have referred to this as blind trust, often with the consequence of excluding any implicit factors that might be responsible for confident behavior—or have even stated that "all trust is in a certain sense blind trust"

(Giddens, 1990, p. 33)—it would be wrong to assume that trust is "blind" just because individuals often do not perceive it consciously.

Even if it is only a small fragment in a larger process, the idea of trust as part of the brain's basic algorithmic programming recognizes the existence of something like an internal regulation system that will supply the human mind with a particular type of confidence within social interactions. Thus, trust must be understood as a substantial part of the homeostasis of social interaction. Through interoceptive signals, it directly impacts our ability to interact. This would explain why trust is most efficient when we are not aware of it. If we see it as a dynamic part of an internal, and physiological, regulation system, it seems plausible that this type of programming is mostly switched on whenever we engage with others socially. In this sense, it may continuously supply us with relational confidence, but with dynamic and varying results. Some situations might require higher levels of relational confidence while others may require lower levels.

The idea of a continuous supply of relational confidence is nothing new. Following a similar logic, Luhmann (2001) has provided several good arguments emphasizing that under a total lack of confidence, individuals would not even be capable of leaving their house or accomplishing simple tasks. Otherwise, Luhmann suggests, they would be stuck evaluating the general risk of everything around them, even in their routine conduct.

Before I can address trust's effect on social performance more specifically in Chapter 6, we must ask ourselves how we can align the ideas presented in this chapter with the definitions found in the trust literature presented in Chapter 2. First of all, it is obvious that scholars have used a wide range of definitions, and these definitions have referred to different aspects of actor-related information processing. Because trust research is often dominated by cognitive approaches, many definitions of trust refer to the rational expectation management that we find in social interactions, particularly in professional relations (cf. R. Searle et al., 2011; R. H. Searle & Ball, 2004; Shiau-Ling, Lumineau, & Lewicki, 2015). Another part of literature has favored a view in which trust is understood in terms of the general presence of confidence within social interactions (cf. Endreß, 2008). However, these insights are not specific enough to address why trust is usually associated with a sense of intersubjectivity and social identification—or is often highly imperceptible.

For all of these reasons, I highly support the idea that social interference and relational confidence are crucial to a better understanding of how individuals build social performance on their perception of intersubjectivity. Indeed, from a more abstract perspective, such an approach does not even contradict existing

definitions. In most approaches of trust, it was assumed that it might manifest itself as an additional leap of faith in the course of social interactions, or that trust was part of a communicational relation between a trustor and a trustee (cf. Lenk, 2010). Some of these approaches might even profit in some way or another from such a proposal.

The idea of trust as part of our "mental programing" then allows us to rethink its specific role in the progress and continuation of social ties, which several scholars have addressed in the literature (cf. Chapter 2). It encourages the assumption that the experience of social relationships is a necessary resource for our ability to reciprocate and further engage with others—and that trust serves a unique regulatory function in the interconnectivity of individuals within human communication networks (cf. Chapter 1). In the following chapter, I address how trust's supply of relational confidence may impose a specific *ease of conduct* within an individual's social performance.

6 *Trust and Social Interaction*

How Relational Confidence Provides Individuals with an Ease of Conduct Toward Others

Before I can address the issue of trust's central impact on social performance and navigation, let me first summarize the main points of my argument. At the beginning of this book, it was argued that a social relationship is something that individuals experience. Furthermore, Chapters 3 and 4 proposed that such experience is based on an individual's processing of her interactant's social presence, by the occurrence of social interference, and by what is further memorized as relational knowledge. Chapter 5 then suggested that we could further specify what scholars refer to as trust by taking a look at how the human mind can implicitly draw relational confidence from that knowledge. Trust was defined in terms of a pre-cognitive automatism, part of a mental program that is active even before individuals can deal cognitively with interactional contingencies. One of trust's main features is therefore how it indirectly reduces an individual's experience of conductional vigilance as part of social interactions.

Following this framework, we can assume that any supply of relational confidence may significantly impact the continuation of a social tie, as it allows (at least) one side to act with determination and sincerity. As approaches to trust that focus on its social impact have suggested, it can be implied that trust and the general experience of social relationships play a major role in the way individuals structure themselves in communication networks (cf. Chapter 2). In this chapter, I will address these implications as part of my systematic speculation and further explore how trust can affect the social performance of individuals with their interactants.[58]

6.1 *Trust's Ease of Conduct and Dynamic Range*

Even though most parts of the literature have emphasized the positive impact of trust (cf. Chapter 2), it is essential to note that trust's supply of relational confidence is not necessarily either good or bad. People who are eminently

58 Both Chapter 6 and Chapter 7 are structured to discuss the implications of the communication-centric theoretical framework presented in Chapters 3–5.

relationally confident might see the general dangers and opportunities of an interaction but nevertheless feel assured that they are right to approach the interaction with ease. What we can conclude at this point is that a high supply of relational confidence may increase one's ability to reciprocate—even if this includes more negative and hurtful types of behavior.

Because it produces the feeling of security based on a (potentially negative or positive) sense of relatedness, trust can be thought to directly impact the human ability to further engage with our interactants in social interactions; it gives individuals the impression that they do not need to evaluate the situation further or deal with interactional contingencies.[59] For this reason, any social interaction will be accompanied by an ease of conduct if trust is at work. This ease of conduct may manifest itself in the general perception of the situation, it may affect our cognitive evaluation of interactions with others, or it may directly impact our motor activity and physical well-being in that situation. Taking this into account, trust's outcome can be understood as much a physiological condition as a mental condition; it is part of an individual's basic awareness and physical reaction to her social environment.

Furthermore, trust might not be always enough to bypass the experience of conductional vigilance in social interactions. From this perspective, most traditional trust dilemmas (like the one featured in the "trust game" used in behavioral psychology as shown in Chapter 2) highlight the inefficiency of trust rather than its actual activity, since the level of conductional vigilance in such scenarios is usually so high that relational confidence can hardly bypass it. If trust triggers interoceptive sensations on a pre-cognitive level, that is not something individuals will be good at controlling; more realistically, trust is something that individuals can either try to accept as part of their behavior or learn to ignore. This difficulty of controlling trust distinguishes it from rational thought, which, according to Morewedge et al. (2015), individuals can train themselves in (cf. Stanovich & West, 2008).

Considering these thoughts, it seems almost surprising that the idea of trust has traditionally been seen as a definite mental state with implications for the awareness of risk (cf. Castelfranchi & Falcone, 2000). According to the epistemological framework of this book, trust produces the complete opposite: a total *lack* of a distinct mental state regarding risk. If trust provides individuals with

59 At this point, it seems helpful to remember that it relies on the same information source that is responsible for the experience of a coherent relationship as part of a social tie.

relational confidence as part of social interactions, it *prohibits* them from perceiving interactional contingencies or conductional risk. We should get rid of the idea that trust can be defined by explicit concepts such as faith agreements or a willingness to be vulnerable that suggest a more active and conscious evaluation of the situation (R. C. Mayer et al., 1995; cf. McKnight & Chervany, 2001). As I have noted in Chapter 5, such evaluation can be understood as the results of cognitive evaluation and rational thought. Descriptions that mention the faith or vulnerability of a person only help us, if at all, to locate trust's "operating range." We must assume trust's activity does not necessarily lead to conscious levels of excitement, commitment, or vulnerability in an individual's cognitive perception and will not necessarily result in definite mental states. It seems more likely that an ease of conduct can only indirectly manifest itself in a decreased level or total lack of conductional vigilance. A good way to think about it is to compare it to a pain-relieving drug—one that relieves the human need to cognitively build rational expectations and confront contingencies within a social interaction.

This may be true for relational confidence that emerges from negative as well as positive types of interference. If an individual perceives a coherent and stable universe of negative social relationship toward another social actor, she can navigate any interaction with similar ease. While overly positive types of relational confidence can be thought to produce an ease of conduct by giving the strong intersubjective impression that the other side will behave and emote exactly as you would do—overly negative types of relational confidence may provide you with the impression that the other side will act and emote precisely in ways that you would not.

Hence, we must rethink the general bipolarity that both scholars and laymen have attributed to the phenomenon of trust—mostly by putting their definitions of trust and distrust in clear opposition (cf. Lewicki et al., 1998). It makes more sense to understand these two opposing states as two highly extreme outcomes of trust's activity. In some situations, a sense of intersubjectivity may appear to be particularly salient because it is given a high level of attention and might feel more existential. In these kinds of situations, an individual might proclaim that she highly "trusts" or "distrusts" another social actor. Between such extremes, however, there must be a broad range of outcomes that are more ambivalent and dynamic in nature and that are distributed as part of a wider spectrum.

While it is fair to assume that trust's supply of relational confidence can heavily impact the way individuals reciprocate and engage with their interactants, it seems more problematic to deduce that trust's activity will lead to specific, clearly predictable outcomes (as is often assumed in behavioral approaches to

trust (cf. Chapter 2)). If we understand trust as an omnipresent regulator of relational confidence in social interactions, it may impact an individual's experience of conductional vigilance in more dynamic ways. In their own model, Lewicki et al. (2006) hinted at the variety of trust outcomes, ranging from the positive (such as hope, faith, or assurance) to the neutral (such as passivity, hesitance, or showing initiative) to the negative (such as cynicism, watchfulness, or fear) (cf. p. 1003). These assumed outcomes paint a rather drastic picture of trust's impact on social interaction, as they mostly reveal trust's potential extremes. While such outcomes might arguably be the result of a very strong supply of relational confidence, they should be nevertheless counted as exceptions.

As I have argued in Chapter 4, social interference can occur in different ways and may manifest itself in various types of perceived intersubjectivity. At one extreme, it might manifest itself in a strong feeling of togetherness (as in the perception of strong emotional bonds), while at the other, in a feeling of alienation or skepticism (as in the equally emotional perception of rivalries). However, not every perception of a coherent social relationship is defined by strong friendship or strong rivalry—most of them are more nuanced and include different types of social interference. As we have seen, any perception of a social relationship offers a very singular experience, a unique universe that will produce its own particular types of relational confidence.

With this in mind, we can assume that trust's primary function is to supply individuals with a specific resource that further enables them to connect or disconnect with other social actors and extend their scope of action. As a source of interconnectivity, trust's regulatory function may remain completely invisible in social interactions, even if it can drive and motivate human behavior in essential ways. The colloquial definition of trust and distrust as bipolar states should be replaced by a more dynamic approach—one that acknowledges trust as a mental algorithm will usually not produce such extreme results but silently accompanies our social performance and navigation in more subtle and dynamic ways. We can assume that without trust, individuals would not be able to integrate the meaningfulness of their perceived social relationships into their general social performance.[60] Trust can

60 It is important to remember at this point that whenever an individual does not *trust* another social actor, this does not mean that they do not perceive a *social relationship*. On a theoretical basis, humans should still be capable of perceiving social relationships even if they were not capable of producing relational confidence. However, *it would not be possible to 'trust' another actor if there was no perception of a social relationship*. This includes both the coherent processing of positive and negative interference.

be thought to serve an underlying primordial need, since it gives us a unique guideline for how to act and emote with social actors and define ourselves as socially related through the way we reciprocate with them (cf. Misztal, 1996). Thus, for example, it gives us a distinct impression of which social actors we can entrust a secret to or further rely on, of whom we want to further engage with or avoid in future.

Because of its dynamic range, it is my proposition that we cannot frame trust as something that moves in only one direction; it will not necessarily let a social tie gravitate toward absolute harmony or complete alienation (cf. Möllering, 2013). If someone has a strong supply of relational confidence based on positive interference with an interactant, this could even lead to behavior that will ultimately worsen the relation. For instance, an individual who is strongly in love with another person might perceive a strong sense of intersubjectivity and feel an ease of conduct in her interaction with that person. However, the high level of relational confidence might also make her cross several boundaries, which might be perceived as a threat by the other side. Following this example, a high presence of relational confidence is not necessarily a potent predictor of a social tie's evolution.

A good metaphor for addressing this is to think of relational confidence as a social lubricant that provides individuals with necessary ease in social interactions. In some situations, this ease of conduct might be so vital that social interactions would otherwise not function properly; in others, it might damage a social tie in the long run. Instead of assuming that trust will lead to static, singular outputs, it makes more sense to ask how its dynamic range, its ups and downs, move over a period of time. The way trust generates a very specific ease of conduct may impact how secure someone will feel in social interactions, how committed and emotionally involved they will be with other social actors, or how empathetically impulsive they will behave. It seems very plausible that the processing of intersubjectivity with other social actors changes dynamically over time and that each perceived relationship is a social universe that is transformative and progressive at its core.

6.2 *Trust's Functionality for the Social Performance and Navigation of Individuals*

In many ways, trust can be understood as part of a very basic and primordial automatism that allows the human mind to use its sense of relatedness for further engagement with others. An exploration of trust seems of particular interest whenever trust fails to provide us with relational confidence, or

whenever it leads to outcomes that may irritate us. While a supply of confidence could be understood as something that individuals generally benefit from, I propose a point of view that considers both its potential benefits and possible dangers.

Usually, social ties that feature a high degree of trust are perceived with a high level of ease and often feature an intimate sense of relatedness; they might feel easier to handle and navigate, as one might have a distinct sense of how to behave and emote within the reality of a relationship. In that sense, trust spares us from further effort, since we do not need to anticipate our interactants' conduct or to negotiate with them. If an individual can strongly rely on her trust within social interactions, this suggests that she can intuitively act based on her supply of relational confidence and does not have to deal with the interactional contingencies of that interaction.

Presumably, this natural lack of concern is prominent mainly in personal and intimate relations (such as family ties) that are characterized by a strong sense of intersubjectivity. As individuals learn to rely on their trust even in early development (cf. Harris & Koenig, 2006), trust must be considered one of the first basic resources of one's social orientation. Nonetheless, we have seen that trust can be similarly effective in social interactions that are characterized by loose ties or serendipitous encounters (cf. Misztal, 1996); in these instances, trust may provide us with interoceptive sensations even before we can rationally evaluate the contingencies of that situation. In many cases, however, our gut feeling might be misleading, or even dysfunctional. Furthermore, it may be at odds with our rational evaluation of a situation. In such situations, trust can be highly problematic, as most individuals have learned from a very early age to rely on their interoceptive sensations and sense of relatedness, even if this carefreeness may not be the best strategy to navigate all social interactions. Thus, a certain degree of vigilance may be appropriate in many types of interactions.

While trust motivates encounters with social actors who feel related to us, it also motivates avoidance of those actors who do not. Furthermore, our trust may often be at odds with behavioral norms and routines that mark our daily interactions. Because trust's supply of relational confidence precedes cognition and rational evaluation, it can sometimes be hard to figure out why we have a certain gut feeling in our interaction with individual social actors. As the supply of relational confidence is nothing that most individuals can rationally evaluate, it might lead to conflicting percepts in our processing of social interactions. Let me use an example to illustrate this.

In a professional collaboration, we might act rationally and follow protocol in the interaction with a colleague. Apart from this, we could also be driven by

the strong experience of (negative) social interference and are highly confident the colleague is motivated by negative intentions and ultimately wants to hurt us. In such situations, we need to deal with two very different sources of knowledge that could each drive our behavior. While trust supplies us with a natural confidence, we might be forced to behave differently due to protocol and cannot rely on our interoceptive sensations. Here, not relying on our trust might even be the better strategy—especially when it turns out that our relational confidence was misleading and that our colleague is actually very nice and has no malevolent motives at all.

This example should illustrate that trust can offer a quick and strong motivator for social interaction (one that lets individuals act in an emotionally impulsive and determined manner) but might not always be a reliable source. As a very basic and implicit way of engaging with others, relational confidence might flourish more in interactions that are not guided by behavioral routines, such as many online interactions (cf. Diekmann et al., 2014; Kunnel & Quandt, 2016). It provides us with an easy and efficient pre-cognitive way of navigating social interactions based on our experience of social relationships but is also tied to specific dangers (such as the presence of prejudice as part of social interactions). Thus, it might be a strong motivator if we want to subliminally bypass any interactional contingency or the general complexity of a specific social interaction.

While the literature has primarily considered scenarios in which trust maintains its functionality and manages to provide individuals with a distinct gut feeling or boost of confidence, it seems necessary to also consider scenarios in which trust as a mental algorithm "fails" to provide a distinct ease of conduct due to dysfunctions. Obviously, such an endeavor can only be of a speculative nature. However, we can profit greatly from asking such questions that can give us better sense of trust's general functionality.

As I have noted, trust can be of value only if its supply of relational confidence is founded on the perception of the relationship as coherent. Consequently, trust is of no use if the implicit sense of intersubjectivity regularly switches, moves in contrary directions, or is contradictory to such a degree that our brain and body do not know how to process it. If trust cannot produce such coherent output, individuals will be constantly torn between conflicting confident impulses and ultimately will struggle to induce their sense of relatedness into their conduct.

Hence, it seems conceivable that trust might produce incoherent results due to dysfunctions—which would eventually lead to further irritation in the experience of conductional vigilance. For instance, the interoceptive percepts

leading to relational confidence could be experienced as incoherent, disproportional, or even entirely incomprehensible—adding a new level of conductional vigilance. Due to such dysfunctions, trust might not produce clear and reliable results, since its supply of relational confidence could be flawed or might produce different types of confidence at the same time that would eventually contradict each other. Furthermore, it seems possible that some individuals are not capable of producing any relational confidence at all. This may not necessarily be a bad thing; a person devoid of any relational confidence could still rely on other types of confidence, or on their rational thought. Nonetheless, she would not be able to engage in social interactions that required a certain degree of relational confidence in the first place.

Following the above argumentation, it is possible to investigate trust's basic functionality in social interactions, which is not only significant for any further exploration of human social interaction in general but also allows us to consider trust's impact in terms of mental conditions that are thought to deeply affect an individual's social behavior and sense of relatedness. This could include mental disorders that are usually driven by a general sense of suspicion or active distrust toward other people (such as post-traumatic stress disorder (PTSD) or paranoid personality disorder (PPD)); it could include neurodevelopmental disorders such as autism that are characterized by an individual's struggle to reciprocate and experience intersubjectivity with other social actors (cf. Baron-Cohen, Leslie, & Frith, 1985; Perner, Frith, Leslie, & Leekam, 1989); and it could also include dark character traits such as narcissism or psychopathy that are thought to alter an individual's experience of social relatedness and social hierarchy (cf. Paulhus & Williams, 2002).

While such isolated cases should not divert us from the idea that trust is integral to any human being's general social performance, they could reveal differences in how trust and its supply of relational confidence are calibrated between individuals. Apart from that, we must also assume that there are general similarities in trust's fundamental operating principle. Future research should investigate whether there is such a thing as a default setting for trust that is detectable in any human being. However, this must not be confused with a "propensity to trust," which is defined as a singular underlying disposition or personality trait that is thought to enhance or lower an individual's trust (cf. Evans & Revelle, 2008).

Following the epistemological framework behind this concept, trust can be considered an essential, functional element for many social interactions—one that originates from the same source as the experience of social relationships. Without a regulated supply of relational confidence, individuals could not

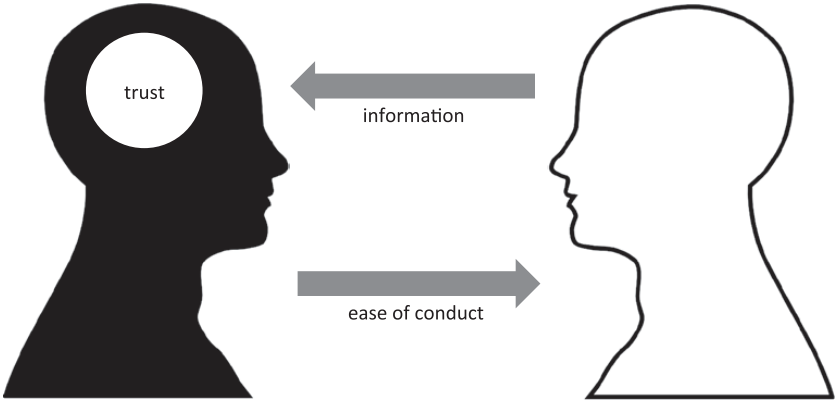

Fig. 6.1. An illustration of trust's role as part of human interactions. An individual (*black head*) processes information about her interactant (*white head*) and experiences an ease of conduct through trust's supply of relational confidence.

induce their general experience of social relationships into their social behavior. Although a large part of the current research on trust is interested in how trust can be strengthened or improved, it would be wrong to assume that individuals can actively control the way their trust operates. It would also be wrong to assume that it is someone's fault if she was not relationally confident in the course social interactions (e.g., at her workplace). As I have noted, a supply of relational confidence is not always beneficial; since it is deeply tied to our sense of self and our general perception of the world, it should not be manipulated or artificially disrupted (as, for instance, under the influence of drugs). For all of these reasons, we need to be careful in making assumptions about trust's general benefits or drawbacks (cf. Skinner, Dietz, & Weibel, 2013). What we can only conclude at this point is that, for better or worse, trust's activity might increase an individual's general ability to reciprocate with other actors (see Fig. 6.1).

6.3 *Trust's Ease of Conduct as an Attribute of Individuals in Social Ties*

As we have seen in Chapter 2, many scholars assume that the presence of trust will allow individuals to further engage with their interactants as part of an interpersonal social tie. Following this assumption, our ability to produce relational confidence may be essential to the reactivation and continuation of both strong and weak social ties. Similar to the experience of social

relationships, trust must be considered an attribute of an individual and not of the tie itself; it is something that individuals "bring to the table" in their interaction with other social actors rather than something that is already "on the table" as part of the tie (cf. Chapter 1). As Coleman (1982) has noted, most human relations (even the most intimate ones) feature disparities in hierarchy and power. If two social actors interact with each other, they will usually provide different social resources and different sets of knowledge and power.[61] Consequently, the two sides of a social tie may need to produce different levels of relational confidence in order to engage with each other and balance such asymmetries. Following Lewicki et al. (1998), social actors "must effectively interact and coordinate action, whether they like it or not" (p. 443). Consequently, social ties need to be permanently communicated and supplied with confidence.

Of course, it cannot be denied that both sides of a social tie may experience congruent types of social interference and that their perceived levels of intersubjectivity could be similar. However, from a theoretical point-of-view, it is unlikely that there is such a thing that we can call "mutual trust." While trust might profoundly influence an individual's ability to reciprocate with another actor, it still draws from their subjective perception of a social relationship—which can be entirely unidirectional. Even if the experience of social interference can produce the impression of intersubjectivity and relatedness, it must still be considered a highly subjective attribute of an individual as part of a social tie.

Above all, the reactivation (and continuation) of a social tie might be equally efficient if only one side of a social tie produces relational confidence toward the other. At the most extreme, only one side of a dyad might have an actual perception of a social relationship, while the other side might not have perceived any interaction at all. This is of particular relevance for social ties that feature more abstract social actors such as groups or organizations, or that are considered parasocial. While some parts of the literature suggest that something like mutual trust—or in this case mutual relational confidence—exists and will usually improve the general nature of a social tie and its reactivation, it seems difficult to make such general statements (cf. R. C. Mayer et al., 1995; S. P. Shapiro, 1987; Sherchan et al., 2013). Even if both sides have experienced

61 This is not necessarily a bad thing, as it allows individuals to socially interact with such actors that own a different status of power and knowledge.

similar types of social interference, this does not guarantee that their brains or bodies will produce a similar type of relational confidence.

Taking all of this into account, any investigation of trust and its role in the reactivation and continuation of social ties must be confined to an individual's experience of a social relationship. While there may be a general operating principle behind trust's algorithmic nature, any supply of relational confidence and the resulting ease of conduct will still rely on a complex set of individual dispositions and experiences. Depending on how relationally confident two individuals are, trust as a mental algorithm might lead to personal commitment and encourage social bonding, or it might lead to skepticism and avoidance in social ties. Thus, we need to be careful with any predictions of interactional outcomes related to trust. As social ties are highly complex, trust's supply of relational confidence may play a dynamic role in their continuation (and discontinuation).

6.4 *Trust and Multirelationality*

A specific challenge to trust's supply of relational confidence may appear whenever different types of relations characterize social ties. As Lewicki et al. (1998) have argued, most trust scholars characterize relationships as simple and unidimensional (cf. p. 440). Even in transformational approaches, limited attention is given to social context and changing relationship dynamics, or to their "multiplexity" and "multifacetedness" (cf. p. 442). Following the authors, different relations and experiences with the interactants determine the experience of social relationships:

> Parties may have different experiences in working together on tasks and activities, may learn to function together in the same office environment, and may share conversations about different topics on which they agree and disagree. For instance, I may get to know a professional colleague in my academic department fairly well. Over time, I may learn that this colleague is excellent as a theoretician, adequate but not exceptional as a methodologist, highly limited in skills as a classroom teacher, completely at odds with me in his political beliefs, outstanding as a golfer, tediously boring in committee meetings but periodically quite insightful, and terrible at keeping appointments on time. My disposition toward my colleague will be a function of all of these different encounters with him, and I may have to learn to live with all of them if he becomes my department chair. (Lewicki et al., 1998, p. 442)

While this example is drawn from an organizational context, one could go one step further and imagine that the two colleagues are also best friends. As a consequence, more than one linkage would define their relationship; they would

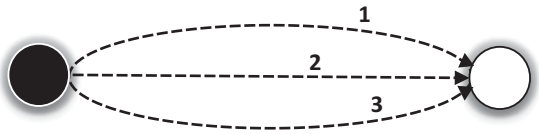

Fig. 6.2. Horizontal multirelationality within social ties. In this specific example, an individual (*black node*) perceives three different types of relationships toward her interactant (*white node*). For this reason, she might also be able to produce three different types of relational confidence that might further influence each other.

interact not only professionally but also based on their friendship. It is almost as if each interacted with two different personas.

The example given by Lewicki and colleagues is not an exception, as many social ties feature not only various social linkages but also different communication channels. The idea of a relationship that is both private and professional is a rather broad example and should only emphasize how trust can activate different types of relational confidence toward the same interactant. I will further refer to this variety as a social tie's *multirelationality*, including aspects such as their multiplexity or multifacetedness. In the light of the main assumption that individuals engage in what they perceive as a social multiverse, we must assume that specific social ties can also contain different universes in the sense that each tie can offer different perceptions of social relationships toward an actor. Within the same social tie, individuals might experience different social relationships toward their interactants.

In the literature on trust, the idea of multirelationality is mostly handled as an afterthought. Usually, and similar to the example of an interpersonal dyadic tie that is both private and professional, multirelationality is mostly considered to appear on *horizontal* levels—on which we process the different personalities of an actual person based on their different social presences (e.g., as a friend or colleague). Through the memorization of different sets of relational information, individuals can further perceive different coherent social relationships with the same social actor that will enforce their own conductional premises (see Fig. 6.2). While such multirelationality could potentially lead to significant irritation (and conductional vigilance), it often allows us to navigate our social environment with more precision as even one single social tie can function as a social multiverse itself.

Apart from such horizontal multirelationality, scholars like Giddens (1991) have suggested that in the specific context of trust, multirelationality can also

occur on *vertical* levels (cf. p. 115). In such scenarios, a social interactant is not only perceived as an individual, but can also be perceived as part of a dyadic relationship toward a group on the meso level of a social network, or toward a systemic actor on a macro level of a social network. As I have noted, individuals can perceive social relationships toward groups, organizations, or social circles, including systemic actors such as the press or government. The basic condition here is that they perceive this relation as part of a dyadic tie and that they process the interactant as a singular actor that owns a free will (cf. Chapter 1). Based on their experience of social interference and their sense of intersubjectivity, their trust can further supply them with an ease of conduct as part of their social performance.[62]

As articulated in Chapter 1, the experience of social interference might not be the most reasonable way of making sense of one's affiliation with a group or organization (or any abstract social actor), but this is exactly the point: perceiving social relationships toward impersonal social actors is an easy way of making sense of a relation that usually could feature a high degree of complexity. It also reduces the interactant, no matter how complex it might be structured, to a singular, freethinking, and somewhat human, entity. Especially with macro-level interactants such as governmental institutions, this type of simplification is an efficient way of processing reciprocity and interdependence with systemic actors; through the perception of dyadic relationships, any individual can navigate their social environment—even if the world is more complex from an objective perspective. Depending on whether individuals perceive themselves to be part of a dyadic relationship, trust and its production of relational confidence can be of significant importance, even if it is easy to discount it in terms of a nonsensical gut feeling; it might still be a strong and effective motivator for an individual's social performance.

Vertical multirelationality occurs whenever an individual interacts with a social actor that represents micro-, meso-, or macro levels at the same time (see Fig. 6.3). This could be a single person that also represents a company; a family

62 Of course, this greatly depends on one's subjective perception, but the degree to which it might generally affect human behavior should not be underestimated. While one person may perceive a group or institution as a singular social actor, another person might not do so. For instance, "the press" might be perceived as a rather formal and complex institution defined by its functionality that does not have any "social" attributes and cannot be processed as a singular social social actor—or it might be perceived as a united force that will either work for, or against, our interests (cf. Connolly, 2015; Delhey et al., 2011).

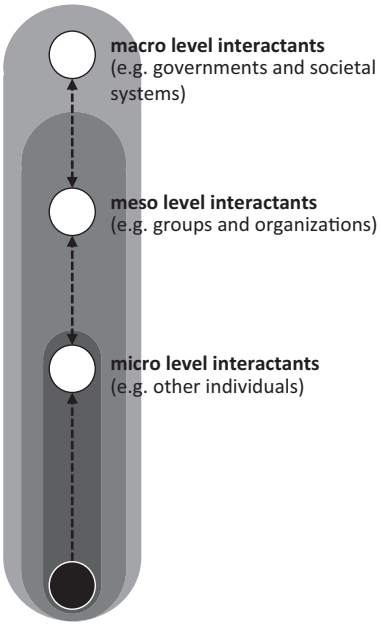

Fig. 6.3. Vertical multirelationality within social ties. In this specific example, an individual (*black node*) experiences her interaction with another actor (*white nodes*) on different societal levels as part of the same relationship. For this reason, individual interactants may be perceived as part of larger groups or systems and vice versa.

member that we perceive as both an individual and a part of our general family; or an institution that is perceived as part of a larger framework such as the government. It is evident that vertical multirelationality is quite common in our daily lives; any group of friends can involve such multirelationality, as group members can perceive social relationships not only toward other members but also to the whole circle of peers as a closed entity.

Similar to horizontal multirelationality, vertical multirelationality can serve either as an obstacle or an opportunity to an individual's trust. Vertical multirelationality might lead to conflicting feelings and high levels of conductional vigilance, but it might also provide an ease of conduct in an individual's participation in larger groups and communities (cf. Putnam, 2000). Especially on emotional levels, an interfering sense of belonging might generate a sense of intersubjectivity with both individuals and social groups at the same time. For this reason, trust's ease of conduct, if we follow the logic of

my argumentation, can play a particular role in any social structuration and the formation of in-groups and out-groups.

Furthermore, trust's supply of relational confidence might play a significant role in the emergence (but also disruption) of social structures, as it provides individuals with an ease of conduct whenever they would be otherwise overwhelmed by conductional vigilance. It even seems plausible to assume that many modern social ties highly depend on an ease of conduct and a sense of intersubjectivity in order to further progress. In this sense, the experience of social relationships must be considered an essential resource to an individual's ability to engage with her often highly complex social environment. While some people may be mentally overwhelmed by multirelationality, others will be capable of producing enough relational confidence to approach such multiple relations with ease of conduct. Particularly in modern societies that are characterized by multiple communication channels, such a capability allows individuals to engage in more complex social structures.

As Giddens (1991) has further noted, many institutions, such as political parties or corporations, actively use the idea of multirelationality by choosing individual actors as public representatives (cf. p. 115). In such cases, audiences are thought to "trust" the institution by "trusting" these individual people. Consequently, public representatives are essential to our making sense of the complex structural frameworks associated with these corporate or political actors (cf. Wiencierz, 2017). If we see a politician on television, we might also gain perspective on our relationship to their political party or even to politics as a general societal system. If a person who watches a politician on television perceives herself to be in a social relationship with the political party on one hand and with the politician on the other, she might experience convergent types of social interference with both interactants at the same time.

However, we could also imagine a completely opposite situation, in which multirelationality cannot be accompanied by a singular ease of conduct. For instance, during an election the person might produce strong positive relational confidence toward the political party but strong negative relational confidence toward the politician. In such cases, the two types of relational confidence are at odds with each other and could even cause more conductional vigilance instead of lowering it. In our daily lives, many multirelational social ties are defined by such dissonance. An individual could, for instance, feel positive relational confidence toward a good friend who is also a policeman, while at the same time she might feel strong negative confidence toward the police as an institution.

All of this shows that trust's quickly retrievable ease of conduct can be a potent source for human structuration (especially for social ties that are defined

by multirelationality), but that it is also hard to predict from the outside. Trust can fundamentally alter an individual's general sense of relatedness and affiliation, and allow the emergence of new social structures through its ease of conduct. It makes individuals respond to their interactants primarily on *how they feel related to them*. While this could be a good thing for intimate social ties (such as friendships and romantic relationships), we must seriously ask whether individuals should rely on their relational confidence toward abstract social actors, even if such confidence can provide them with an ease of conduct. As Delhey, Newton, and Wenzel (2011) have noted, the radius of trust might be extended to such a level that individuals perceive large masses of people as singular entities (which might represent whole nations or might be addressed through vague concepts such as "most people").

Especially today, any supply of relational confidence toward larger actors such as organizations, institutions, or systemic actors is of high significance, as it can further impact an individual's support or engagement with such actors as well as their general societal approval. Modern brands have managed to impact our experience of social interference and address our trust through with the help of public communication and marketing initiatives (cf. Bentele, 1994; Hoffjann, 2011; Osterloh & Weibel, 2006). Nonetheless, it is still important to remember that trust is part of a pre-cognitive process that is the result of a highly subjective type of information processing. Addressing an individual's trust appears to be a highly complex task, as no strategy can guarantee that someone will experience social interference and rely on a supply of relational confidence in their further engagement.

6.5 *Trust's General Impact on the Emergence and Disruption of Social Structures*

The examples given in this chapter show how hard it is to make actual statements on how trust and its supply of relational confidence will impact human interaction or social structuration in general. Not every social interaction is motivated by trust, even though it can provide a very distinct ease of conduct. Furthermore, not every interactant is perceived part of an individual's social multiverse. Scholars should further explore how individuals segment their experience of social relationships and how much they are susceptible to a dyadic worldview in the experience of their social interactants. Only if they perceive a dyadic relationship can their trust supply them with relational confidence.

In the best-case scenario, such research would stabilize a more dynamic, and multifaceted view of trust as a social regulator whose supply with relational

confidence generally accompanies social performance. We have seen that the experience of social relationships can be understood as an interface between increasing individualism and the expansion of communication networks within modern societies (cf. Chapter 1). Some people may be more efficient than others at implicitly experiencing their social environments through relationships and at using these relationships as information channels and foundations for further interaction.

As a foundation of interconnectivity, trust gives individuals a precognitive incentive to further engage with other social actors with ease (which could potentially also manifest in the act of avoiding others or not responding at all). However, if two social actors produce very strong types of relational confidence within a dyadic relation, this allows them to interact with each other more impulsively, even if one seeks further exchange while the other strongly tries to avoid it. Within the social structures of human communication networks, trust can either raise the level of interaction through a common sense of togetherness or lower it through increased skepticism and avoidance.

With the emergence of new digital communication channels, establishing relational confidence can become an essential component of the way users exchange information (cf. Sundararajan et al., 2013). If an online contact or friend posts or sends us an online video that we are supposed to watch, we might do so with an absolute ease of conduct based on our social interference with them. However, we should never exclude rational behavior as a motivator in the decision to watch the video. For example, if we know that our contact has exquisite taste or a certain expertise, we might watch the video based on this rational cognitive evaluation.

On a grander level, human communication networks might be highly influenced by the way their members rely on their trust in their social performance (with others). While the examples that I have used illustrate that it is difficult to link trust to specific outcomes (especially on the macro level of human communication networks), some scholars have dealt with trust's dynamic impact on social structuration. As I have noted in Chapter 2, scholars like Lynne Zucker have argued that trust may play a specific role in the emergence and decline of organizational and societal structures (Zucker, 1985; cf. Zucker, Darby, Brewer, & Peng, 1995). According to Zucker, trust seems to become more important whenever relational confidence is the strongest incentive to engage with other social actors. It appears to be particularly relevant for social ties that are defined by new connections and opportunities, such as serendipitous encounters, or social ties that are defined by a high level of risk.

In these cases, the experience of social interference and the experience of social relationships may be the main foundations for social interaction.

Taking this into account, we can assume that a high supply of relational confidence is of great significance for types of interactions that are unprecedented but hold great potential. If a number of individuals feel equally related or unrelated to each other, this might be a significant factor in their further engaging in such interactions. As previously noted, some scholars have commonly used the metaphor of social glue to refer to trust, as such a metaphor emphasizes the potential of relational confidence as a connector and an implicit impulse to further reciprocation (cf. Blöbaum, 2014). It also hints at the idea that social interference produces the subjective illusion of a shared universe that can include not only other individuals but also larger groups and institutions (cf. Japp, 2010).

The ease of conduct resulting from trust may be one of the reasons why some scholars have linked it to the emergence of more complex and multi-faceted types of interactions within social groups and organizational structures (cf. Ruef, 2002). Social structures that depend highly on the trust of individuals may hold a great potential for innovation (meaning new types of interaction) and the emergence of new conductional routines (cf. Conway & Steward, 2009; Gärtner, 2007). For instance, many recent innovative social media applications are highly dependent on their user's trust, since they encourage interactions between complete strangers (cf. Kunnel & Quandt, 2016; Tanz, 2014). As Zucker (1985) has noted, other historical examples (such as the changing economic structures between 1840 and 1920 in the United States, which introduced new forms of businesses and professional types of cooperation) demonstrate how trust and the emergence of innovative social structures are deeply intertwined. As Rudolf Stöber (2008) has suggested, the plurality required for any innovation cannot be discussed without the notion of changing communication structures and relations. Any social structure that relies heavily on the trust of its members may also be easily disrupted, since its basic foundation lies in the subjective perception of these members.

At its most extreme, the reality of a social relationship can collapse in a moment (for instance through new, controversial information) and immediately destroy any ease of conduct. Individuals who experience such a sudden breakdown of relational confidence face interactional contingencies; if the controversial information is distributed heavily, this could even affect whole social groups and networks. In this regard, while social structures that rely on trust can be highly effective in their innovation potential, they are also highly fragile.

For the reasons presented here, it is wrong to assume that a significant presence of relational confidence within a social structure like a group,

organization, or society necessarily leads to stronger social ties or that more relational confidence necessarily leads to an increase, or even improvement in social structures. If we want to explore trust's distinct social impact as an interactional lubricant, we must confront the notion that it exists only in the minds of individuals and does not operate outside the micro level of human interaction. For this reason, we cannot make any general statements on how relational confidence will directly impact social structure at this moment. All we can do is to empirically measure how much relational confidence individuals produce toward each other and under what circumstances they experience social interference—and with what results. With such strategies, it might be possible to identify the existence of a temporary "trust climate" within human communication networks (cf. Fulmer & Gelfand, 2012). However, it should first be proven that trust is as influential to the emergence of social structures as scholars have suggested (cf. Chapter 2).

6.6 *Trust as Susceptible to Mass Communication*

Chapter 1 showed that the experience of a social relationship requires the processing of each interactant as a single node in a dyadic relation, whether it consists of a single person, a group, or a large institution. Whenever we experience a social relationship, the other side is experienced as a closed entity that owns a free will (even if it is a systemic actor). Considering this, we must ask how a tiny part of our mental programming like trust is impacted by the changing communication infrastructure in an increasingly digitized and digitalized world. Based on the testimony of third parties and with the help of mediated communication channels, individuals can frequently exchange and receive actor-related information from, and process social presences with, even actors with whom they do not directly interact.

It seems fair to assume that in digital sensory spaces, the way individuals process actor-related information is fundamentally challenged by a growing plurality of information sources, new types of information flow, and a greater availability of actor-related information. The perception of a social relationship can be a convenient and effective way of simplifying information exchanges and interactions, since it allows individuals to experience their relation to other social actors as part of a distinct social reality—and to provide interactions with a specific ease of conduct. For this reason, our ability to rely on our trust, and to perceive our environment through the framework of dyadic relationships, can be interpreted as an efficient way of dealing with a potential information overload. The more individuals "trust" (or produce relational confidence toward)

other actors, the more they are capable of dealing with the increasing number of challenges in their digital environments through ease of conduct. What they may experience on the very basic level whenever they "trust" is a relief in cognitive workload as their conductional vigilance is lowered.

The role of mass communication, then, is of particular interest for researchers of trust: while individuals may vary in how, and how much, they implicitly establish relational confidence, they can nevertheless receive identical actor-related information—for example, through the mass distribution of information (cf. Castells, 2012; Kerbusk et al., 2015). Most notably, such distribution can affect the establishment of relational confidence among larger crowds and groups of people.

In Chapter 7, I address how, as a result of the changing communication infrastructure and the complexities of modern societies, individuals increasingly depend on public mediators in the general processing of their interactants' social presences. The way these mediators communicate actor-related information can strongly impact the ways people are capable of "trusting" their interactants. When the reliability of such mediators is in question, the establishment of relational confidence can be challenging. Because of this, an alternative to trust has emerged as part of our collective memory: the notion of "trustworthiness" as a collective reference category.

7 *Trust and Mass Communication*

Trust's Function in Mediated Environments and the Role of Trustworthiness as a Collective Reference Category

Following the arguments made in this book, we can assume that in a world devoid of any implicit confidence, many of us would be quickly overwhelmed by the level of conductional vigilance in social interactions. Since social interactions are highly complex, ambiguous, and uncertain, our working memory would be extremely busy trying to figure out interactional contingencies.

The ability to experience coherent social relationships is a way of organizing and making sense of these eventualities on a more subliminal and basic level. The essential point here is that individuals do not actively choose to trust or distrust other social actors, nor do they deliberately experience social relationships; rather, these are an implicit and mostly subconscious part of how they make sense of their social environment in general. The experience of social interference allows the human mind to subconsciously navigate its social environment—much as it subconsciously navigates the physical environment through sound and sight. In the same way that individuals move physically between places, we can assume that consciousness can mentally move between different social universes, each with its own individual rules and realities. If someone is particularly good at this, it might offer him a greater scope of action and provide him with an ease of conduct in social interactions. This might be especially helpful in the emergence of new or expanding communication networks.

7.1 *Trust in the Light of Expanding Human Communication Networks*

Due to an increasingly globalized and digitized environment, many individuals are confronted with a new variety and quantity of social ties. As in the case of digital environments, it is often difficult to rely on behavioral etiquette or to develop behavioral confidence, since conductional routines may not yet have been established. Considering the rapid evolution and spread of the technology, many online users need to rely on their processing of social interference to navigate these social resonance spaces with an ease of conduct. Even outside of

digital communication channels, many individuals rely on a dyadic worldview to approach their complex social environments with an ease of conduct.

A good example of this is the way individuals engage in political activity (such as voting), which is often motivated more by individual processing of social interference with a political candidate or party than it is by an individual's actual political knowledge (cf. Sandvoss, 2012). The implicit retrieval of relational confidence is a somewhat intuitive and easy way for our mind to engage with other actors—especially when the relation is perceived as rather abstract. Voting for a political candidate based on a feeling of relatedness allows individuals to avoid the complexities of politics in general as well as the contingencies of their own behavior. On a very basic level, it spares them from any additional cognitive workload.

Even though some scholars have addressed the importance of trust for the general functioning of societies (cf. Blöbaum, 2014), it is hard to make such broad statements. Similar to the concept of mutual trust, the thoughts presented so far indicate that there is no such thing as "general" or "public" trust. Therefore, scholars should be careful with general assumptions concerning the trust of the public or the general loss of trust (cf. Kerbusk et al., 2015). As we have seen, trust affects the minds of individuals and cannot be easily attributed to the public. While it can contribute to political engagement or a sense of collective identity and personal investment in human communication networks (cf. Simon, 2011), it can also contribute to paranoia and a conspiracy culture (cf. Aupers, 2012).

Although many scholars suggest that trust is absolutely "crucial" for many areas of life and for the functioning of societal systems (cf. Quandt, 2012, para. 8), this may be a hasty judgment. For instance, if an organization (or society) relies on the trust of its employees (or citizens), this could also reveal systemic inefficiencies and organizational problems. Employees would have to rely on their interoceptive sensations to do their job, which may not be the most efficient way of working. Whenever individuals rely on their implicit and often intuitive establishment of relational confidence, the outcome is somewhat unpredictable, even to themselves; it is nothing that they can switch on or off. What we need to remember is that trust can retrieve not only confidence based on positive types of interference that facilitates ease of conduct but also confidence based on negative types of interference that will facilitate similar ease.

Furthermore, trust is not a new or specifically modern phenomenon. After all, we can easily imagine pre-modern times in which individuals trusted each other in the same way that we trust one another today. As a mental algorithm, trust must be considered an essential part of how individuals perceive their social environment. For this reason, we must assume that the fundamental

operating principle behind trust's supply of relational confidence in human interaction has always been the same.

What may have changed, though, is the general idea of what constitutes a social relationship. As suggested in Chapters 1 and 2, the general assumption of which social actors individuals can (and cannot) relate to has undergone significant shifts as part of the more complex social structuration of modern societies and their expanding communication networks (cf. Giddens, 1990; Misztal, 1996). Above all, a dyadic framework allows individuals to make sense even of the most sophisticated and abstract relations in their daily routine; it allows them to perceive social relationships even without the involvement of direct interaction. Chapter 6 has shown that trust might significantly contribute to the transformation of organizational or societal structures—whenever new bonds and types of relations (or connections) emerge and new behavioral routines are established. Therefore, a changing definition of what constitutes a social relationship can lead to new types of social ties and interactions.

Arguably, the experience of a social relationship offers an efficient mental framework for an exchange of information that may change dynamically due to socio-cultural factors, as well as a shifting understanding of whom one can relate to. Because individuals perceive their social environments as multiverses, we must assume that they are capable of mentally switching between various social relationships and are capable of extending their multiverse through the experience of social relationships and trust. Depending on which private or public mediators and sources they use, and depending on the scope of their networks, individuals may process the social presences of other actors in different ways and therefore experience different types of social interference.

7.2 *Trust and Public Mediators*

With the help of mass communication, *public mediators*—institutions or actors who mass distribute content to larger audiences—have taken on an essential role in distributing actor-related information and drawing attention to certain actors (cf. Waldherr, 2012). Since they are substantially exposed to actor-related information in complex mediated environments, many individuals have learned to rely on such mediators in their general perception of social actors. Often, these mediators are the traditional mass media, such as the press, public relations departments, or the advertising industry; more recently, less conventional public mediators, such as online forums and online social networks have emerged as digital social resonance spaces (Allcott & Gentzkow, 2017). As

Quandt (2012) has suggested, both traditional and new media now seem to be competing for the audience's attention.

If we take into account the immediacy of social media applications (and the way users can post and receive frequent updates and personal information), it seems plausible that they hold a greater potential for the processing of social interference because of the distribution of multidirectional network presences (cf. Chapter 3). On a very basic level, individuals' supply of actor-related information can be highly formative in terms of how they process their social environment. Scholars like Giddens (1990) and Luhmann (1979) have noted that many modern social interactions rely on our trust in systemic actors who cannot be easily experienced or perceived without the help of public mediators (cf. Chapter 2). What we need to remember at this point is that many individuals process social interference with such actors not because they have chosen to do so but because they have experienced an extension of their social environment through the distribution of information.

Following these assumptions, public mediators such as newspapers, magazines, television and radio stations, and online networks and forums can greatly impact how individuals experience social interference and may impart to them an ease of conduct toward certain actors. If trust is part of a mental algorithm that does not operate by explicit rational evaluation, but is instead based on implicit and often interoceptive signals, this suggests that individuals can experience social interference, and further trust or distrust individual social actors just by being exposed to public mediators and without necessarily being aware of it.

In many ways, trust is part of our body's elemental response to its exposure to other individuals. It is directly linked to how individuals identify with others and how their identity is constructed by the exposure to actor-related information; the way we feel related to other social actors and relate to them is directly tied to how we perceive ourselves (cf. Chapter 1). For this reason, the construction of human identity may work differently whenever individuals are exposed to larger communication structures and a high number of potential social ties. Without their noticing it, the processing of actor-related information through mediated channels can impact how individuals relate to specific actors, how biased they are in their interaction with them, and how much ease of conduct accompanies this biased interaction. In highly mediatized (and digitalized) environments, it might actually be more difficult to not produce any relational confidence and establish an implicit ease of conduct toward other actors. Trust remains an effective and efficient shortcut for the mind to avoid conductional

vigilance; it is easier to develop a gut feeling than to seek new information or build rational expectations.

A good example of trust's power is the type of polarization that occurs in online comments. In discussions on social media or in the comment sections of online news sites, which according to Reich (2011b) are participatory spaces, user comments can be strongly driven by how related users feel toward specific social actors or toward each other (cf. Kunnel, 2015). In such cases, part of the commentator's social performance may be driven less by the need to engage in a thoughtful discussion and more by their experience of positive or negative social interference (cf. Garcia, Mendez, Serdült, & Schweitzer, 2012).[63] Just the presence of a visual cue like a user's profile picture will make it easier to experience relational confidence (cf. Liu, Preot, & Ungar, 2016).

While these are just examples, hopefully they emphasize the ways our minds can be tricked into the experience of social interference. Especially when confronted with high levels of complexity, audiences and recipients may need to become aware of their trusting activity and learn how to consciously disconnect from their implicit supply of relational confidence in certain situations. Instead of trusting, they would need to train themselves cognitively—and through the inference of heuristic principles—with the goal of approaching these situations rationally through expectations (cf. Renn et al., 2007). In many situations, it might be better for individuals not to rely on their brain's ability to trust or distrust other actors.

Because the distribution of actor-related information through word-of-mouth, traditional mass media, or social media can often be misleading or false (cf. Allcott & Gentzkow, 2017), we must consider our retrieval of relational confidence as somewhat vulnerable to persuasive strategies. According to Falcone, Singh, and Tan (2001), trust can be manipulated to such a degree that individuals implicitly build relationships toward artificial agents in virtual settings, even if such agents are not real individuals.[64]

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63 Of course, such polarization is not something new in the context of media reception and may also occur as a reaction to a print newspaper article or television news (cf. Martin & Yurukoglu, 2015). However, it is more visible in the context of online communication, where users can publicly engage with each other and reciprocate more frequently—and directly.

64 This should not suggest that every human being can be easily manipulated into trusting other social actors through the distribution of information; it emphasizes only that the human brain is inherently capable of processing a coherent sense of shared identity simply by being exposed to actor-related information.

To fully understand trust as a mental algorithm, it may not be enough to ask how individuals process actor-related information—we must also ask how this input is "served" to them as a potential trigger. For many people, the experience of social interference can sometimes be very effective in the reduction or bypassing of conductional vigilance, but at other times it may be totally misleading. Researchers need to explore how different types of communication channels and different types of media affect our experience of social interference. They need to explore further how mass-communicated information flows can trigger the experience of social interference among individuals and how this impacts their supply of relational confidence. Noticeably, many services that have emerged as part of the online sharing economy are designed to connect users based on a sense of shared identity so that they can share personal properties, such as their apartments or cars (cf. Kerbusk et al., 2015; Tanz, 2014). In light of these developments, we must further explore how these services penetrate the user's trust.

It is impossible to make any definite statements about the opportunities and dangers of trusting or distrusting other social actors in mediated or digitalized environments; there is nothing fundamentally right or wrong with relying on one's trust. All we can conclude at this moment is that in the social resonance space of digital environments, individuals face a high number of opportunities to process other actors' social presence and build coherent relationships toward them (cf. Chapter 1). With the help of public mediators and by relying on their trust, they can extend or narrow their social multiverse and scope of conduct.

7.3 *Reliability, Consistency, and Transparency in the Reception of Public Mediators*

Although it is necessary to take the highly subjective nature of trust into account, we can assume that ease of conduct plays an essential role in how individuals engage or disengage in social ties that are more modern and abstract in nature. As I have noted, trust allows individuals to implicitly and subconsciously bypass or reduce conductional vigilance on a very instinctive basis. Chapter 6 showed that the way individuals produce relational confidence can play a primary role in the emergence and breakup of social ties and may affect the set-up of larger structures such as communities, social networks, or organizations.

Even if it seems extremely difficult to predict the structural outcome of the processing of social interference for a social group (as we would face the challenge of chaos theory), it might still be possible to explore the influence of trust

on larger social structures. Furthermore, we might ask if it makes a difference whether actor-related information is received through various communication channels such as social media, advertisements, and other types of mediators, or even through word-of-mouth. While mediators can appear on any level, it seems plausible to assume that *public* mediators have a special role in the exposure of certain public actors, as they supply larger public arenas with actor-related information (cf. Imhof, 2008).

Given the increasing media literacy among audiences, one might legitimately question whether recipients are fully capable of depending on public mediators as distributors of actor-related information (cf. Sandvoss, 2012). This is an issue of *reliability*. As audiences grow media savvy, they also have become more critical of such representations, not only in traditional types of mass communication, such as television and newspapers but also in newer technologies such as social media. While in its early days, the World Wide Web was home to a small community of scientists and users could who could trust each other, online communication has since grown so fast that users may find it difficult to rely on the actor-related information they find there. Users who process the network presence of a public actor (such as a celebrity or politician) on social media, may find only a small resemblance to that actor in these posts, as if they were written by a ghostwriter or were created using algorithms (cf. Pariser, 2011). Beyond this, they may perceive biases in the way mediators report on certain actors and position themselves in relation to them. Taking all of this into account, many recipients are aware that even though their mind processes social interference, the representation of the public actor may not be authentic—as his public image and reputation may have been altered.

Beyond the issue of reliability, a second issue might be of importance for the recipient's ability to process social presence through public mediators: the issue of *consistency*. With multiple contradictory sources, individuals are confronted with a new set of ambiguities, uncertainties, and complexities. To illustrate this, let me use a simple example drawn from an everyday situation.

Imagine that one day at work, you are informed that you will soon get a new colleague, Anna. She is going to work closely with you, as you both share the same expertise. The first thing you do is to research her work experience online, where you will find some information about her—some photos, her social media profiles, and even an interview with her in a newspaper. Even if you do not know her personally, you might start to process something like a relation to her based on the experience of social interference (which could, for example, be driven by a sense of commonality as well as competitiveness). You then ask your colleagues if they know anything about Anna. One person knows

her personally, since they have studied together. He describes her as a friendly, laid-back person with great taste in music. A second colleague knows her only from collaboration and describes her as superficial, fake, and highly competitive; he says that she lacks integrity and cannot be trusted. In fact, he advises you to be careful when dealing with Anna, as she might even be a threat to your position. After these conversations, you ask yourself what to make of your new colleague. Even if you came to the (rational) conclusion to postpone any judgment until you meet her in person, your brain has already tried to process her social presence.

This example illustrates that the processing of social presence can ultimately suffer from inconsistencies that emerge from contradictory information. Once a social actor is experienced publicly, our perception of his image and reputation is usually based on a variety of public mediator information sources. In the example of Anna, the processing of her social presence will most likely change once you and she begin to work with each other. However, this is less of an option for the perception of social actors whom we perceive only unidirectionally and through mediated channels. For instance, the reputation of a politician can be different on social media than it is in the news, or among our peers in a group discussion at a pub. Because of this, the high number of information sources in mass-mediated environments can strongly impact our sense of consistency and may add further conductional vigilance.

The same can be said about the third and last issue that I would like to address in this context: the issue of *transparency*. In the communication-centric context of this book, transparency specifically refers to the level of density of actor-related information. Some public actors might be more present and transparent to us than others. For instance, one politician might be covered frequently in the news while another barely appears there. Hence, a higher degree of transparency in mediated environments may allow individuals to process the social presence of some actors more smoothly than others. Furthermore, the perceived level of transparency may determine how much individuals know about an interactant in the first place and how intense and immediate the actor will appear to them.

If, for instance, the two leading candidates for the presidential election are perceived in their media coverage to have different degrees of transparency, we might ask how this will impact our processing of the candidates' social presence and level of social interference, as well as our general level of attention toward the perception of information about these actors. This should not suggest that more transparency is necessarily better, as a higher information density can

also impact our level of conductional vigilance.[65] For example, it could reveal more personal and intimate details that would otherwise not be of any interest. Public mediators can heavily influence their audiences' perception of transparency merely by the amount and type of attention they give certain actors (cf. Krastev, 2013).

Taking all this into account, communication scholars need to further investigate the ways public mediators impact the experience of social relationships and the experience of social interference among individuals. It is necessary to remember here that the reliability of public mediators, the consistency in the distribution of actor-related information, and the transparency of these actors may supply individuals with different and often multiple types of stimuli that impact not only their perceptual but also their cognitive and motoric systems (as suggested in Chapter 4). A lack of or change in factors such as reliability, consistency, and transparency might lead to irritations that could manifest themselves in very basic reactions, such as a general difficulty of comprehension in the sensory registry or in overall perception. Simply speaking, individuals could be irritated or overwhelmed whenever they process inconsistent, nontransparent, and unreliable actor-related information and experience further conductional vigilance.

7.4 *Trustworthiness as a Substitute to Trust in Social Interactions*

In many areas of life, especially in the realm of mass mediated communication, individuals are faced with the limitations of trust and the realization that that their gut feeling might be wrong. Because the perception of the unreliability, nontransparency, and inconsistency of public mediators can lead to a new experience of conductional vigilance, we must ask whether individuals can produce

65 According to Krastev (2013), the idea of *transparency* should be treated with caution when dealing with the issue of trust, especially in the context of political communication. While we would not be able to produce relational confidence toward public actors without a degree of transparency, things become difficult if, for instance, recipients demand that public actors be fully transparent so that they can "trust" them. Especially in the area of politics, such a demand can be highly problematic and might put the private lives of politicians in public focus. But even apart from that, the increasing transparency of private social media users who do not consider themselves to be public actors might be problematic, considering the restraints it places on their privacy and anonymity (cf. Suarez, 2013; Zuboff, 2013).

enough relational confidence to bypass this new level of vigilance. For some individuals, trust may be enough to interact with or respond to such actors with ease, even if they are literate enough to know about the potential flaws in their media coverage. However, others may struggle to rely on their trust under such circumstances, because the irritation may be so great they find it hard to experience any social interference and to further reciprocate with actors who appear to them only through mediated channels.

Because of this, individuals may actively seek further assistance to build rational expectations toward social actors with whom they want to continue to reciprocate. The best way to do this is to access the knowledge of others. We might ask mutual friends for their opinion about a social actor or do an online search to find out whether we would be able to relate to him (as we did with our friend Anna), or read the news to learn more about a public person. All of these sources (our friends, the websites, the social media profiles, the news reports) can function as mediators that can provide us with actor-related information to actively assist our social performance; through them, we might be able to experience social interference with other actors.

But they can provide more than an extension of the interactant's social presence. Remember the colleague who said that Anna lacked integrity and could not be trusted? He was not only describing her as a person; he was also specifically calling attention to the issue of conductional vigilance. In doing so, he advised us to be careful in our further social interactions with her, because her reputation might have produced a false image, one that is too positive. Our colleague's advice is particularly helpful because he was able to reflect on what it was like to actually work with Anna and used more abstract categories (such as her integrity or loyalty) to refer to her. The use of such categories made it possible for him to give us a distinct impression of what to expect from her and how to make rational predictions about her behavior. It helped us to estimate Anna's trustworthiness.[66]

In our daily routine, information that will give us an impression of an actor's trustworthiness is not exchanged only in personal conversations (as in the example); it might also appear in user ratings and recommendations online or in traditional mass-mediated content such as a discussion on a television talk show. Some of these sources will be more private in nature, while others will

66 Of course, our reliance on the testimony of our colleague may vary based on what we perceive as his credibility. For instance, he could have some sort of agenda with regard to Anna.

address their audience publicly. In all of these scenarios, the discussion of an actor's trustworthiness can tell us what to expect in case we socially engage with them. Such inferences can give us a coherent sense of what we are to experience with this actor and what type of conduct can be expected from them. They might further give us an idea of their sense of belonging and affiliation, which might be substantive to our intention to further engage with them. All of these factors are usually important for experiencing social interference and memorizing relational information on our own—only this time, the information is coming from another source as part of a recommendation. We do not have to experience the interactant ourselves but can use a third party's testimonial to rationally predict whether our potential interactant is trustworthy or not.

Across the literature, *trustworthiness* is often understood as a prerequisite or determinant to trust; individuals are thought to evaluate other social actor's trustworthiness cues in order to build positive expectations to "trust" them (cf. Chapter 2). This is a very common approach in the history of trust research and can be traced back to the tradition of behavioral psychology and game theory. While the logic presented in that tradition (individuals "trust" other actors based on their "trustworthiness") seems plausible from a rational perspective, I have argued that trust, as a part of the basic algorithmic programming in the human brain, does not require a rational evaluation of the working memory. All this suggests that the relation between trustworthiness and trust may be more complicated than scholars have previously suggested; as concepts, they might not even be directly related to each other and might serve different functions. For this reason, let me elaborate on their differences. It will allow us to make better sense of how trustworthiness categories can help to supplement our trust, especially in highly mediated environments.

7.5 *Trustworthiness as a Product of Collective Memory*

The main difference between trust and trustworthiness is simple: at its core, trust allows individuals to produce relational confidence. Trustworthiness, on the other hand, is a type of information category that refers to the "worthiness" of a social actor. In that sense, trustworthiness can be understood as a reference category that is part of a collective testimonial about another social actor that can be used as a foundation of rational expectations toward that actor. It is also strongly tied to the linguistic—and morphological—potential of a language to refer to such "worthiness." To successfully make this distinction, it seems essential to remember that there are two different ways our mind can

deal with conductional vigilance: through the implicit retrieval of confidence or the explicit and rational building of expectations (cf. Chapter 5). While trust on the one hand implicitly produces a type of confidence, trustworthiness, on the other, helps us to explicitly build rational expectations toward an actor.

Trustworthiness categories can, for example, be an actor's credibility, benevolence, integrity or honesty but also his malevolence or dishonesty (cf. Colquitt et al., 2007; R. C. Mayer et al., 1995). All of these examples refer to the idea that the interactants are coherent and somewhat predictable in their interactions. As a type of information category, trustworthiness can be a part of an interactant's image or reputation but is not necessarily a determinant to trust. Arguably, individuals do not need to rely on their trust if they can rationally produce a high level of positive expectation based on an interactant's assumed trustworthiness. Instead of relying on a gut feeling, their working memory can access what others have said about, or experienced with, another social actor.[67]

Note that trustworthiness is not a traditional actor-related information category (cf. Chapter 3), since it includes the experience of a third party; someone else tells us what it is like to interact with a specific actor, we do not experience it ourselves. Consequently, any information that addresses the trustworthiness of an actor is part of an explicit collective conversation that addresses the heuristic principles through which we cognitively evaluate our interactants. It does not allow us to directly and implicitly perceive the social presence of this actor; it allows us only to observe the actor cognitively—and rationally—through the eyes of others as part of a shared reference system. Therefore, trustworthiness categories are not a part of an interactant's experienced or perceived social presence; rather, they allow us to build rational expectations toward our social interactions and can be helpful in assisting our social performance. Arguably, this is possible only if individuals are surrounded by communication structures that allow them to distribute and access this type of information as the result of distributed intelligence and as part of what some scholars refer to as *collective memory* (cf. Dyson, 1999; Weldon & Bellinger, 1997). The term refers to a shared pool of information between two or more people that allows individuals to retrieve knowledge through collaborative media such as online networks, word of mouth, or digital databases.

As noted, individuals might face challenges or limitations in their ability to trust other actors in larger human communication networks. Thus, the

67 Of course, this requires a certain reliance on, or trust in, collective memory as an information source.

introduction of trustworthiness categories can work both as compensation for and as an alternative to relational confidence, because such categories allow individuals to cope with conductional vigilance rationally. Trustworthiness can be "used" whenever an individual tries to predict an interactant's future conduct with the help of "shared knowledge categories" about the interactant's conductional coherence. This may be especially true for highly digitalized environments, in which individuals might find it difficult to rely on their relational confidence in other social actors but face a lack of alternatives on which to base their trust.

It can be further assumed that communities, organizations, or even larger societies will necessarily, and somewhat naturally, develop trustworthiness categories to enable interactions between their members based on their own ideas of what makes social actors "worthy" of their "trust." They can further distribute these trustworthiness categories through mass communication, such as word-of-mouth, mass media content, or online reputation systems.

Contrary to trust, which must be considered an attribute of individuals (and how they perceive themselves to be part of dyadic relationships), trustworthiness categories should be regarded as an attribute of groups and communities (see Fig. 7.1). As an information category, trustworthiness can be of use only if it is comparative in nature and can be used for more than one person. Let's take the idea of credibility as an example of a type of trustworthiness that individuals commonly refer to. If we refer to a specific person or source as credible, the idea of credibility must be of such common sense that we can compare this person's credibility to that of a second actor. Otherwise, information that a person is credible would be completely useless.

If, for instance, a friend refers to our new colleague Anna as credible, we both have a sense of what the concept of credibility means to us and which other actors we would personally perceive as credible. In Anna, we have a shared reference point for our idea of credibility.

As this example illustrates, trustworthiness categories are of value only if there are at least three actors involved—two interactants and a reference point; this is different from trust, which requires only an individual's perception of a dyad. In many ways, this is essential to understanding the main functionality of trustworthiness and its role in the development of languages. In some parts of the trust research, it is assumed that individuals recognize specific trustworthiness cues in their interactants, since trustworthiness is considered to be an almost personal attribute of that interactant (cf. Golbeck, Warren, & Winer, 2012; R. C. Mayer et al., 1995). However, if we follow the assumption that trustworthiness is part of a communal reference system, we should not frame it as

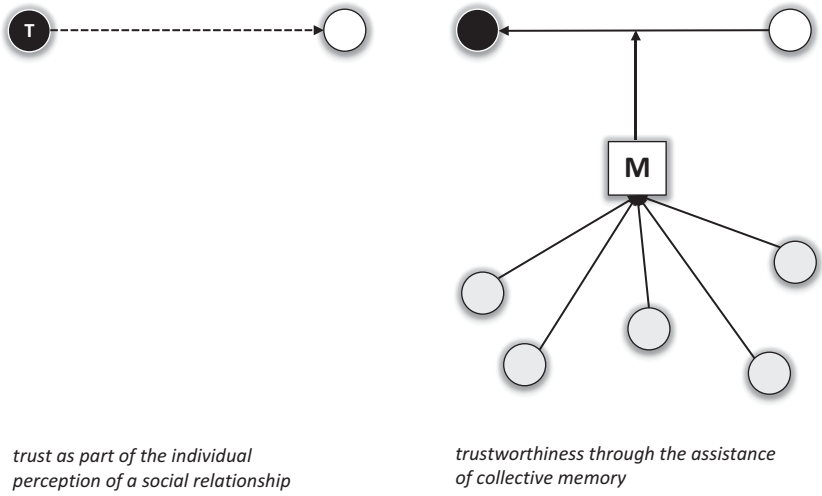

Fig. 7.1. A comparison between the individual experience of a social relationship and the reception of trustworthiness categories. While trust (marked "T") relies on the individual's subjective perception of a social relationship (*left*), trustworthiness categories are communicated and mediated through collective memory (*right*).

the interactant's attribute. Trustworthiness is only part of how we reference and pass information about other actors in order to be better equipped for social interactions that might feature conductional vigilance; the way individuals perceive or talk about the trustworthiness of others is not necessarily based on evidence and heavily relies on their shared knowledge. Let me use a simple thought experiment to illustrate this.

Imagine a lost island somewhere in the ocean. The island has only two inhabitants, who were born there and have had no contact with any other living person, as their parents passed away in their childhood. Unaware of the existence of other people, and without any proper sense of the rest of the world, they are the only human beings they know. We can easily imagine how they are capable of processing each other's social presence and experiencing social interference with each other. Just from an evolutionary perspective, it seems likely that they would bond with each other. There would be no need to introduce something like a trustworthiness category; the concept itself would not make any sense to them. Each of them has only the other person as an interactant and reference point for their thoughts. They would not be able to share their

estimation of the other person's trustworthiness with anyone else, and there would be no need to name it in a specific way.

Now imagine that one day a boat is washed up on the island. In it is a woman, the only survivor of a passenger liner that has sunk in the ocean. After the two islanders have rescued the woman, the three of them live together. Slowly, the two islanders are trying to make sense of the behavior and motives of this woman, whose language they do not speak. While one islander is highly suspicious of the woman and experiences a type of negative interference, the other is more welcoming and less alarmed, as he experiences a type of positive interference. For both islanders, it is hard to predict the woman's behavior.

To mutually discuss their impressions and what they can expect from that woman, the two islanders come up with specific categories. They enter a more rational conversation about whether they can rely on her and believe her, and whether she has good or bad intentions. They are doing this to predict her general behavior and conduct. Suddenly, the idea of trustworthiness has entered their conscience, as the two start using categories that refer to the woman's general behavior and whether she is "worthy" of being trusted. They have introduced a reference system on which they both can rationally agree.

While this is a fairly simple thought experiment (one that largely ignores more primordial factors such as sexual attraction or rivalry), it emphasizes the rational value of trustworthiness and the major differences between it and trust. We must assume that, because of their biological set-up, individuals are naturally capable of trusting other individuals. If for instance, an orphan had grown up in the woods as a feral child, we could assume that its information processing could potentially experience social interference and retrieve relational confidence once it got in touch with another human being (or civilization) based on its experience of social interference. However, it would not be able to understand the concept of trustworthiness immediately without a proper, rationalized knowledge of civilization itself and its social and cultural norms, or language.

Considering all of this, it would be wrong to assume that trust was primarily driven by the processing of trustworthiness cues. Trustworthiness categories are somewhat artificial and "man-made" tools to assist us in social interactions and they are used rationally; they are largely dependent on what is considered consensus within a group, organization, or society. It makes more sense to understand them as the result of a social group's (or network's) collective memory or intelligence. Much as the two islanders agreed on mutual categories, larger groups or whole societies can develop their own trustworthiness categories and cues; especially in modern environments, information that

refers to the trustworthiness of a social actor can be of special significance, as such information can effectively be exchanged through mass communication.

Because of this, we can assume that many social groups or networks gather and process information about what makes their members trustworthy as a natural result of their internal communication. Information about what makes an actor worthy of trust can be exchanged and "stored" as collective memory with the help of word-of-mouth or by mediated channels. In larger social groups, such as modern societies or even global environments, public mediators can play an essential role in the distribution and retrieval of trustworthiness cues, as individuals might not be able to comprehend the size of the group without further help.

Much as human consciousness can retrieve "stored" knowledge from its own memory, individuals can retrieve knowledge from collective memory and shared distribution in order to deal with the processing of conductional vigilance. In many ways, it makes sense to consider the emergence of trustworthiness a direct result of the expansion of social spaces in the course of modernity and their increasing reliance on mediated communication channels. Trustworthiness cues allow individuals to keep up with their expanding social multiverse and allow social groups as a whole to communicate and synchronize certain values of social interaction. Of course, this is not necessarily a good thing; one can easily think of authoritarian societies that are very vocal about communicating which of their citizens fall into the category of being trustworthy and which do not. However, the emergence of trustworthiness categories can also lead to improvements within social groups, since they might incentivize further interaction.

What seems most significant in the context of trust is how trustworthiness categories address our need to place the experience of social interference on a more rational basis. While social relationships are mostly perceived implicitly, trustworthiness categories allow individuals to communicate their sense of coherence more explicitly and share their experience (of social interference) with other individuals as part of their collective memory. Addressing someone's loyalty, for instance, will articulate how this person can coherently show strong support or allegiance.

For trustworthiness cues to work as a way to reduce conductional vigilance in social interactions, our working memory needs to apply a specific (heuristic) principle, which can be articulated in the following sentence: If a social actor appears to be trustworthy based on the memory of others, one would have likely come to the same conclusion if he had interacted with this actor herself. If this sounds like a very plausible sentence to you, and if you have used this logic, for

instance, in your last online purchase, chances are that you have internalized it as part of your social performance. However, most of us know from our experience that this sentence is not necessarily true and that such logic can get us into trouble as much as it can help us. There is no guarantee that the collective memory of an actor's trustworthiness will lead to our expected results. It will not necessarily become true. Nevertheless, it allows us to apply trustworthiness cues to our rational evaluation and ultimately helps us to build rational expectations based on the collective reference system.

At this point, it is important to remember that the way trust provides us with relational confidence is not necessarily reliable either. As I have noted, individuals might have an implicit gut feeling about another actor, act accordingly to this feeling, and still be proven wrong in the end. Furthermore, research in the field of psychology has shown that collective memories can at times be more as well as less efficient than an individual's memory—depending on the situation and information processing (cf. Weldon & Bellinger, 1997). While in some cases it can be more accurate to rely on the knowledge of others, in others it might be more efficient to rely on one's individual memory.

7.6 *Interdependencies between Trust and Trustworthiness*

While the approach presented in this book proposes a clear distinction between trust and trustworthiness, many scholars have referred to them as closely related (cf. Hardin, 2004). Of course, our definition of what makes a social actor trustworthy cannot be completely separated from our experience of social interference. Future research should investigate whether new trustworthiness categories emerge only from the way individuals experience social interference on their own or they can be artificially created and mass distributed (e.g., through propaganda that is used to ostracize or discriminate against groups of people).

Nevertheless, it seems highly important to approach trustworthiness as a social and linguistic construct to better understand its specific relation to trust. More than anything, trustworthiness is the result of how a social group translates into its shared consciousness its ideas about what makes a social actor worthy of trust. In modern societies, such categories manifest themselves in news coverage and advertisements and in the way online user profiles or online reputational systems are designed, but they may also be recognizable in the realm of smaller interpersonal interactions. Considering the influential role of traditional mass media and social media on the distribution of trustworthiness categories, our idea of whether social actors are trustworthy (or not)

highly depends on our information sources. In an age in which individuals are confronted with a multiplicity of public spheres (cf. Münker, 2009), we are capable of accessing a variety of collective memories through different social groups. Subsequently, we can internalize various types of trustworthiness categories as rational signifiers of social performance. In many ways, there may be a certain arbitrariness as to which trustworthiness categories exist within a social group and what types of actors are generally considered trustworthy. Within particular groups, for instance, certain occupations, ethnicities, or cultural backgrounds may be associated with higher levels of trustworthiness than others (cf. Erenler, 2016).

This is why from a structural perspective, the communication of trustworthiness categories may vary from group to group or society to society and highly depends on the use of communication media. Both trust and trustworthiness depend on rather complex and rather specific communicational principles—which is arguably something that the current trust literature has noticed but not explored to its full extent. Understanding the communicational aspects of trust and trustworthiness will get us one step closer to understanding their impact in highly digitized and digitalized environments. Trust as a mental algorithm can be considered part of how individuals experience other social actors as part of dyadic social relationships; it is a highly subjective precognitive process that differs from person to person based on the information input. Conversely, trustworthiness categories allow whole groups and communities to relate to each other with the help of shared knowledge categories that can be rationally processed in order to form expectations toward each other. It is a simple heuristic principle—the idea that we can trust such actors who are presented to us as trustworthy—that often holds both trust and trustworthiness together as part of our daily routines (cf. Schweer & Thies, 2005). The implicit retrieval of relational confidence and the explicit formation of expectations based on trustworthiness cues can be so intertwined in our everyday behavior that we often might not recognize the difference. Let me use a final example from the area of online communication to illustrate this.

Imagine that your computer has broken down and you do not have the money to buy an entirely new one. You decide to buy a used laptop at an online auctioning site. You instantly find a great offer: a user of the site, Tom, offers a brand-new laptop that has rarely been used and is sold for half the price. Naturally, you are a little bit vigilant because of the low price (the laptop might be stolen). On his profile picture, Tom looks a bit suspicious and not sympathetic at all. Eventually, you decide to visit his profile to check the ratings from other users as well as their full comments. To your surprise, Tom's profile

mostly features positive ratings and comments from other users, declaring that the previous transactions went well and the product was shipped very quickly. Some users even mention that Tom is a caring person who wants to make sure that the product arrives in perfect condition and the customer is happy with it. There is only one negative comment arguing that the product itself differed from what the user had expected. Since you know the product very well, you come to the conclusion that this is a fair deal and decide to purchase the laptop.

In many ways, your decision to buy that laptop was motivated by different types of information processing. Of course, it would be easy to say that you "trusted" Tom because of the positive reviews, but it is a bit more complicated than that. Beyond your suspicion of the too-good-to-be-true deal and the awareness of potential risk, it might have been Tom's profile picture (apart from other information) that allowed you to experience some kind of social interference with him. However, as the type of interference was of a more negative nature, you decided to read what others had to say about him. In the user comments, you were able to get more insights into Tom as a person. Through the positive notions in the comments, you may have experienced some type of positive social interference with him (if you believed the comments). What seems more significant in this context, though, is that you were also confronted with specific trustworthiness cues in the comments section that allowed you to rationally predict Tom's conduct as part of your potential interaction with him. This would be even more apparent if the comments section were replaced by a five-star rating system in which users could rate factors such as Tom's reliability or the quality of his items.

Considering all of this, both our trust and the rational evaluation of trustworthiness categories were at work at the same time. Together, they led you to your final confident impression that you should interact with Tom and to the more rational expectation that there were only a few dangers in buying a computer from him.

The example illustrates that even a simple online purchase presents an opportunity for the human mind to switch between different types of actor-related information processing; the implicit retrieval of relational confidence and the more explicit evaluation of someone's trustworthiness may complement or sometimes even contradict each other (see Fig. 7.2). While our trust allows us to reciprocate with another social actor with an ease of conduct, the rational evaluation of trustworthiness seems to require a higher cognitive workload.

It is because of these differences that it seems necessary to distinguish trust from trustworthiness. While the example was taken from a very specific context, it seems important to ask how trustworthiness-cues and our own production

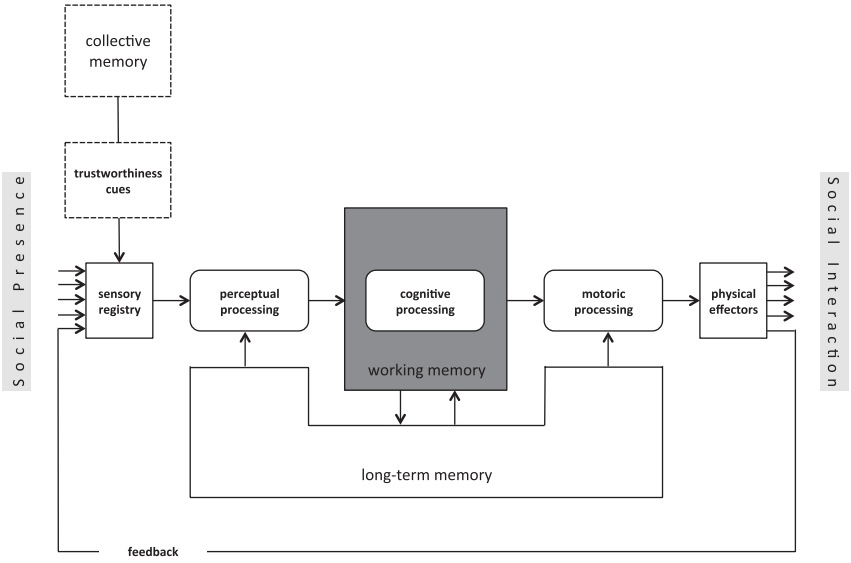

Fig. 7.2. Trustworthiness as part of human information processing. The reception and processing of collective trustworthiness categories might directly affect the processing of an interactant's social presence as well as the activity of trust as a mental algorithm.

of relational confidence in other, broader areas of life are different from each other. Only if we can separate trust and trustworthiness as concepts will we be able to explore their specific impact on social perception and social behavior. This impact seems particularly relevant for individuals and social groups whose communication is highly affected by digital technologies and a high number of mediated communication channels. In digital social resonance spaces, our information processing is confronted with new challenges, since both our trust and trustworthiness increasingly rely on complex communication structures. As I have noted, this seems especially true for social ties that feature larger and more abstract interactants, such as government institutions and international corporations.

Taking all of this into account, it is not too surprising that now and then the concepts of trust and trustworthiness are brought back to the public consciousness and are met with a high level of attention. In many situations, individuals may question whether they can rely on their subjective perception and trust when dealing with mediated contents. Such insecurities are most noticeable

whenever the communication structures that surround us experience a dynamic change in their basic set-up. This has been arguably the case with the introduction of the World Wide Web and online communication in general, as users are confronted with an ever-increasing variety of communication channels, public mediators, and social actors with which they could potentially engage. As a consequence, any public discussion about whom we can trust can be considered an aspect of how individuals try to make sense of their changing communication structures and how these changes ultimately affect their very implicit experience of social relationships. It also shows how the experience of social relationships and, more specifically, trust as an innate basic mental function, have become relevant foundations of interconnectivity and can even, as it is the case with dating applications, lead to demographic change when mediated by online communication (cf. Ortega & Hergovich, 2017).

It is therefore necessary to approach trust through a dynamic framework—especially if we want to investigate how it is affected by mass communication and the emergence of digital communication channels. If trust is an essential part of how individuals experience their social environment as a multiverse—of how they connect with each other as a part of a communicational relation—we must assume that it is much more than a simple state of mind. For that reason, special attention should be paid not only to the particular role of public mediators and their distribution of actor-related information but also to trustworthiness categories as substitutes for trust. Both may profoundly impact how human information processing provides individuals with the experience of social interference.

8 *Conclusion*

Toward a Theory of Social Interference

So why are we interconnected with each other?

There is a good chance that, while reading this book, you have experienced at least some type of social interference with its author. This could have happened on the basis of linguistic cues, the style of the writing, the examples that were chosen, the overall epistemological belief system presented in the different chapters, or even the author's name and academic status.

At this point, we still know little about the reliance of individuals on their experience of social interference and their retrieval of relational confidence. In this book, I have addressed only one small aspect of this rather large question. Asking such trivial questions seems highly relevant for a better understanding of how individuals perceive and interact with each other. Human relations are more than what people *do*; they are part of how we process the world in general and how we constitute a sense of self. That said, there are plenty of open questions. We could ask how social interference and relational confidence impact the ways individuals perceive other social actors, rely on experts, interpret the daily news, engage in politics, interact online, or navigate their personal social networks. With the emergence of digital communication channels and the increased sense of interconnectivity among many individuals, our experience of social interference is often challenged as well as extended as many new types of connections are made—while others disappear.

Even if the argumentation of this book is highly eclectic and discursive in nature, it should be clear by now that trust is neither a simple state of mind nor a strategically approachable tool to accommodate individuals in high-risk scenarios. Part of the scientific confusion (and obsession) surrounding trust seems to result from the fact that many definitions of it are not specific; they usually highlight its functionality and general societal role—emphasizing that trust is usually thought to be of great help in social interactions. Such descriptions of trust's functionality should not be the endpoint of any scientific investigation of trust. Surely, we need more research that focuses on the general mechanics of the experience of social relationships and the formation of trust.

What seems even more significant in this context is that all of these factors rely heavily on the communication of actor-related information and would not exist without it. Without communication, there would be no experience of

social relationships and there would be no trust. Thus, it is necessary to include knowledge about the nature of communication into the exploration of trust.

Applying communication theory to an existing body of research has helped us to address why many scholars have located trust between a mental and a social state and why they have emphasized the high importance of what information we receive about our social interactants as part of a communicational relation. The idea of social presence has helped us to address why individuals can trust more abstract social actors and why they are capable of trusting without the involvement of direct copresence—two very basic assumptions that have been taken for granted but never fully addressed in detail in the scientific research.

I have pointed out that an approach to trust based on communication theory can explain only parts of the overall phenomenon but may feature numerous limitations. For this reason, there is no claim of completeness for this investigation. Nonetheless, I have shown that trust could not exist without the memorization and retrieval of relational information. Only through a communication-centric perspective can we link trust's social, psychological, and physiological dimensions. Taking this into account, communication theory allows us to understand why trust as a phenomenon has become a ubiquitous part of the public discourse, even though we must consider it part of a highly subjective mental program.

The key to such an approach is the idea of social interference—and how it is memorized and retrieved as relational information. At its core, and this is a very simplified way of seeing this, relational information is a type of information that does not come from external sources but originates from human information processing itself. It is part of how our mind and body produce *new content* that is precisely adjusted to the comprehension of our environment as a social multiverse. It allows us to internalize social ties *as* relationships so that we can subconsciously navigate our social interactions with others. Any sense of intersubjectivity requires our minds to be capable of perceiving the social presence of others. Otherwise, we would not be able to make sense of the voice at the other end of the telephone line or the other end of the instant messenger.

For all of these reasons, the concept of social interference is a necessary step in our further exploration of trust. Even if the idea of social interference appears highly speculative, the epistemology that I have presented in this book is not too much of a departure from existing approaches. It clarifies why the activity of trust is related to a level of vulnerability—not because individuals develop an explicit willingness to be vulnerable, but because the retrieval of relational confidence produces an ease of conduct that might often be inappropriate and

misleading and could make one blind to conductional risk. The idea that trust indirectly leads to a lowered awareness of risk is one of the most significant conclusions of this book. It allows us to get away from a definition of trust as a rational, cognitive, and highly motivated practice of overcoming risk; it is not trust's function to deal with risk, but we can conclude that trust *mutes* the presence of risk in our interaction with other social actors.

Another issue that has been addressed in this book is the idea of human bonding in general, something that has been a rather vague concept, almost an afterthought, in the literature on trust (cf. Chapter 2). I have tried to argue that a sense of connectedness can be traced back to the way our brains process actor-related information as social presence. Relating to another person should not be some vague and abstract concept in the research on trust. In many areas of our lives (not only trust), it makes sense to deal with the idea of intersubjectivity as an essential part of how individuals perceive their environment. It also seems important to distance ourselves from a perspective in which human beings only observe and evaluate each other; we are not machines. Any perceived information about an interactant may not only tell us something about her identity but may also affect our own identity and consciousness.

Hence, the concept of social interference can be a helpful contribution to the research on trust and should be considered an epistemological and theoretical link between the existing psychological and sociological concepts of trust and the rather complex and detailed world of human information processing. It can lead to a better understanding of social relationships and allows us to ask why we perceive unique social realities with other interactants. It also allows us to depart from definitions of social relationships that are based on the idea of continuity and the passing of time and instead adopt a perspective that understands social relationships as the result of the processing of coherence—the same processing of coherence that allows trust to further establish relational confidence in social interactions.

For some readers, such a coherence-based perspective on the nature of social relationships might be hard to adopt, as it somewhat contradicts the idea that a relationship is the attribute of at least two social actors and not the result of someone's individual and highly subjective information processing. However, I have given plenty of examples that highlight why we cannot separate the perception of social actors through direct copresence from mediated, or even imaginary, perceptions of interactants and their social presence. We might also ask how certain mental dispositions affect the way individuals perceive social presences and experience social interference. The answer to this question could

allow us to decipher how different mental conditions will affect our experience of social relationships and trust's retrieval of relational confidence.

Highlighting the significance of coherence for the experience of social relationships has also made it possible to further specify the idea of a social multiverse. From a communication-theory perspective, such a multiverse is nothing more than the result of a frequent processing of actor-related stimuli that (depending on our level of attention) will produce the sense of a multiplicity of coherent, shared realities with our interactants. While the idea of a social multiverse suggests that individuals perceive their social environments in highly complex and layered ways, I have emphasized that this highly complex type of information processing can manifest itself in very basic interoceptive percepts—such as a gut feeling. The idea of a social multiverse can explain why individuals are capable of experiencing the diversity of their social environment on both highly complex physiological and cognitive levels.

From a broader view, the perception of a social multiverse must be considered part of how individuals comprehend their different communicational relations to their environment as a whole. Furthermore, highly mediated environments may have a severe impact on the way individuals perceive their social multiverse. This might determine not only *what* we receive about other actors but even more *how* we experience social actors as part of that multiverse and how close or related we feel to them. Depending on the use of mediated communication channels and technologies, some social actors might be highly salient to us through social interference, while others can be completely invisible.

Because of this possibility, we need to investigate further how changing mediated environments—and in particular changing digital social resonance spaces—affect our consciousness and change our social multiverses. As a whole, these changes may have a deep impact on our social perception and affect our social performance as well. While this is not necessarily negative, scholars should be aware of the persuasive potential that lies in the mass distribution of actor-related information. Through manipulation of such information, it is possible to not only change the reputation and image of a social actor but also to change how individuals experience social interference with her. Since it is very difficult for individuals to control and monitor their interoceptive percepts, it might be necessary for the media to consider responsible ways of dealing with actor-related information.

Arguably, the most significant departure from the tradition of cross-disciplinary trust research in this book is the clear distinction between rationality and trust. As I have shown in Chapters 2 and 6, many approaches to trust rely on the adoption of rational choice theory as a way to explain trust's

functionality in social interactions. However, such approaches to trust are not compatible with the general assumption that trust (as well as the common idea of distrust) mostly manifests itself in a general sense of ease in navigating social interactions. While rational choice theory helps us to understand how individuals actively deal with the awareness of risk, we must further ask how their consciousness learns to avoid such awareness on intuitive and more implicit levels in the first place. Consequently, it seems necessary to abandon the general idea of individuals as entirely rational beings when dealing with trust and the experience of social relationships.

For this reason, it has been necessary to emphasize that while individuals can include trustworthiness categories in their rationality, trust as part of the basic algorithmic programming in the human brain manifests itself more implicitly. Such a departure has helped me to articulate the idea that ease of conduct needs to be taken much more seriously in the area of cognitive and behavioral sciences, even if it does not manifest itself in a particular mental state. It also emphasizes a more general belief—the idea that human information processing not only solves problems and reduces complexity but also, and as one of its main (social) functions, eases the comprehension of our social environment and simplifies any interaction with another social actor.

The interdisciplinary approach presented in this book sheds new light on how (and why) individuals attribute a sense of commitment and meaningfulness to the social ties that they experience as part of their social environment. Part of this process was to develop a clearer terminology that could serve the cross-disciplinary demand for a better understanding of trust as a social and psychological phenomenon. This was only possible by approaching trust using a communication-centric epistemology, for only through such an undertaking could we bridge the gaps between the different disciplinary traditions with the help of communication-based argumentation as a connecting element.

The goal of this book was to encourage scholars to consider a unified approach to trust even if, at the current time, the academic discourse around trust seems to suffer from increasing fragmentation and the persistent belief that trust is nothing more than an umbrella term for a variety of social phenomena. The thesis presented here does not support such an assumption; it is possible to tie most links together into a unified approach—at least on a theoretical basis. To further elaborate on this, more theory building and empirical research are required; both should pay greater attention to the neural and physiological dimensions of trust, which I could only touch on here. My primary focus was to reconsider the issue of trust with the help of communication theory, since communication has been a common theme (and missing link) in

the cross-disciplinary tradition of trust research. The main motivation was the idea that communication theory could serve as an interdisciplinary link for the various disciplinary perspectives. With the help of such theory, it was possible to address the specific role of trust in the perception of dyadic relationships, its role in the retrieval of confidence in social ties, and its impact on social behavior and interaction.

The intent behind this book was to pave the way for a new perspective on trust and the experience of social relationships. Due to its interdisciplinary nature, it cannot provide a fully fleshed-out scientific model that can be directly transitioned to empirical research, yet it offers a new way to think about trust and the experience of social relationships. As I have argued, the purpose of interdisciplinary epistemologies is not a harmonization of the different disciplines involved; rather, each discipline needs to figure out how to integrate such epistemologies into its theoretical and empirical framework. Nevertheless, I suggest that beyond the disciplinary differences in exploring trust, most strands of trust research can benefit from the idea of social interference. For this reason, it would make sense to further direct the epistemology presented in this book toward a general *theory of social interference*.

Such a theory could help scholars to investigate the specific role of actor-related information processing and a sense of intersubjectivity for trust and for human social behavior in general. It would also allow us to assess the experience of social relationships from a more fundamental point of view and to reconsider why individuals attribute to their social ties a certain meaningfulness and intersubjectivity.

We need more fundamental research as well as better measuring tools to analyze and better understand social relationships, since each is built on a very specific social reality. Social relationships would not exist without the ability of the human brain to process information. They are not something that we should take for granted; there may exist groups, cultures, and societies that allow very little experience of social relationships, while others may place greater stock in them. If we understood how communication environments impacted such perception, we could learn more about the general nature of human attachment and specifically its reliance on communication channels.

With this in mind, a theory of social interference could serve different disciplines as a door to a new field of research that would affect not only the way we see trust but also social relationships in general. As Fig. 8.1 illustrates, the epistemology presented in this book allows us to introduce it as part of a larger framework.

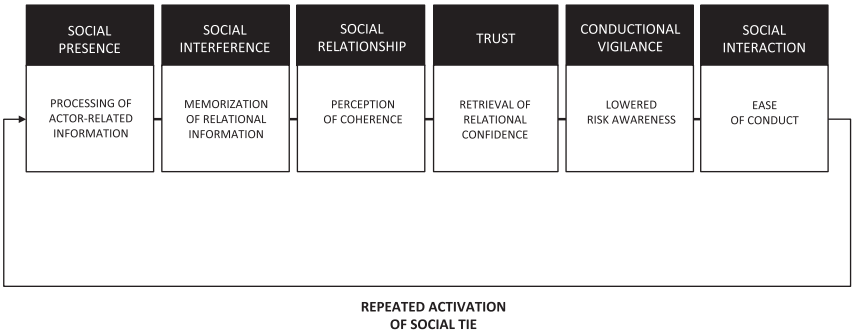

Fig. 8.1. The formation of trust as part of human information processing. The graph illustrates the epistemological framework presented in this book. Based on the experience of social interference, humans are able to memorize and retrieve relational information in their long-term memory. With the help of trust, their consciousness is capable of informing their social interactions with an ease of conduct.

This has various implications for the disciplines attached to the exploration of trust and social relationships. For scholars active in the field of *information processing*, the idea of social interference emphasizes that the processing of an interactant's social presence allows the human memory (especially the long-term memory) to produce a unique new type of information that can highly impact how we relate to that interactant. Special significance should be placed on the specific role of attention in the processing of social presence, as well as the complex relationship between the working memory and the long-term memory, which enables the implicit retrieval of confidence. Furthermore, scholars should investigate which interoceptive and exteroceptive percepts result from the activation of our trust.

In the fields of *cognitive* and *behavioral psychology*, a theory of social interference could allow us to approach the impact of our experience of social relationships on our social orientation and social interactions. It could help us to better understand how and why individuals relate to other social actors—and whom they perceive as their interactants in the first place. This would apply to social actors that are real as well as imagined. For instance, individuals might perceive social interference with artificial agents, such as intelligent personal assistants; or as in the case of conspiracy theorists, they might perceive social interference with groups that do not exist but nevertheless can be processed due to the distribution of actor-related information.

Taking these examples into account, a theory of social interference might allow us to gain more knowledge about which actors people tend to relate to, and for what reasons. It could further allow us to understand how a sense of intersubjectivity can drive an individual's cognition and general behavior. In many ways, the idea of social interference presents a valuable addition to existing concepts that focus on the relationality of human interactions (such as theory of mind) and allows us to further reconsider relational factors such as empathy, attachment, and aversion with a new perspective. Considering recent paradigm shifts in the field of psychology, such as its integration of knowledge from the fields of cognitive, affective, and behavioral neuroscience, a theory of social interference would allow us to explore the concept of dyadic human relations with fresh eyes.

The same can be said about research on trust in the fields of *sociology* and *economics*. The idea of social interference allows us to specify the role of perceived dyadic relations for social and organizational structures. Although the experience of social interference is something highly subjective, an investigation of how the members of a social group perceive dyadic relations and retrieve relational confidence toward each other can help us to understand the group's complex dynamics. Special attention should be given to the idea that individuals in a group can experience social interference not only with other individuals but also to larger clusters or the whole group itself.

Taking this into account, the experience of social relationships can thus apply not only to single individuals but also to other entities within a social group or organization—which might highly impact the formation of in- and out-groups, the levels of solidarity and loyalty among the group's members, and their level of participation (cf. Delhey et al., 2011; Melucci, 1995). It might also impact the frequency of serendipitous encounters and level of innovation within a social group. Furthermore, we could ask if the relational confidence individuals experience in their interactions with groups or organizations differs from the relational confidence they have in interactions with single members of this group. Arguably, this should be of special significance to researchers in *political science*, since it would allow us to depict political movements or election results from a different angle.

As we have seen, it is hard to predict a group's or organization's progress by the activity of trust, as such an attempt would be confronted with an unforeseeable level of complexity. Scholars in the field of *computational science* should evaluate whether it is possible to predict the outcome of a group's interaction with the help of a theory of social interference. Computational complexity theory could be one way to solve the puzzle of the influence of trust

on social structure—especially in comparison to structures that rely on formalized interactions. Beyond that, researchers can further approach a descriptive analysis of the "trust climate" within a group or organization at a specific moment by collecting data on the experience of social interference among the group's or organization's members. This could also further enable longitudinal studies that capture the change of relational confidence in the light of changing social structures and ties. Such insights into long-term effects would also be relevant for related areas of research, such as the construction and programming of complex information systems, digital networks, or machine learning. Most importantly, researchers need to explore what the distribution of actor-related information does to the members of a group and how this impacts their social interactions as well as their transmission of knowledge.

Following the seven assumptions presented in Chapter 1, the experience of social relationships (and with it trust) can be thought of as directly related to the efficiency of information exchanges in human communication networks. In such networks, an increased level of relational confidence may, for instance, directly impact the speed of action and the general perception of time in social interactions (cf. Rosa, 2005, pp. 199–212). Consequently, a certain economic value can be attributed to any actor-related information if we assume that individuals are capable of experiencing social interference and that this could heavily impact the efficiency of their information exchanges. Such impact may be of interest not only for human information processing but also for machine learning, as an artificial agent might process and comprehend information differently (and more effectively) if it can "trust" some sources more than others.

As individuals increasingly rely on (mass) mediated communication channels in their experience of social relationships, scholars in the field of *communication studies* should further investigate how such channels impact the experience of social interference and how they differ in their distribution (and reception) of actor-related information. Furthermore, scholars need to deal with the increasing amounts of actor-related information that individuals are exposed to and explore potential contradictions and ambivalences that might occur with a high number of different information sources. As Chapter 6 suggested, special attention should be given to the role of public mediators and their impact on our perception of public and network presences.

Because digital technologies have become more advanced, modern communication channels can offer very frequent and immediate experiences of social interaction. For this reason, how this impacts our processing of social presences and whether this new immediacy allows other actors to appear closer or even more distant should be further investigated. For many mediated interactions

(such as any participation in the online sharing economy), a level of social interference and relational confidence might be needed for new connections to emerge.

From this perspective, scholars should investigate the potential limits of the ability of trust to resonate with the processing of social presences of highly mediated channels. Future research should also examine in what situations users need to experience social interference and retrieve relational confidence—and in which situations they can draw on the collective distribution of trustworthiness categories. As I noted in Chapter 7, we need to understand the role of such categories better, particularly in the context of mass communication. Trustworthiness categories and cues can be distributed on a variety of channels, and they have gained certain significance with the rise of online communication. Especially in the world of social media, users are highly reliant on indicators for their interactant's reputation and on collective reference systems to guide them into safe interactions.

On a much more basic and fundamental level, communication scholars need to deal with the fact that public institutions such as the press, the advertising industry, and political parties frequently claim that trust is lost or reclaimed among readers, consumers, citizens, and so on. While this is often simply rhetoric, we need to find empirical methods and instruments that can actually measure an audience's levels of social interference with and degrees of relational confidence toward (social) actors. Only through such measurement will we be able to find out whether or not trust is really a relevant issue in a given context.

For all of these reasons, it is time to demystify trust. Since individuals need to deal more and more with global issues in their daily routines and can make use of digital communication channels to maintain their social ties, interconnectivity has become fundamental in the lives of many people. While the impression interconnectivity gives of an ever-expanding global network may partly be an illusion, it is also has become true in many areas of life, as new social ties emerge every day. In many such ties, the experience of social interference will be of some importance, especially when individuals invest these ties with a certain level of meaning and relational confidence.

As scholars, we need to observe how digitalized environments impact the functionality of trust and explore whether the retrieval of relational confidence becomes an almost casual social practice or rationalized norm (cf. Habermas, 1995). Furthermore, these social changes may not only alter the way individuals interact through digital channels; they may also fundamentally change their general behavior. For instance, the use of digital communication channels

and the experience of social relationships within digital sensory spaces could greatly impact the retrieval of relational confidence toward a friend or colleague in direct copresence. It seems entirely plausible that trust as an algorithm that is part of the brain's functioning may also be profoundly altered by the emergence of global intelligence and the evolution of digital technologies.

Considering that social interference can highly affect how individuals exchange information and engage with each other based on a sense of intersubjectivity, trust might play an essential role in social dynamics, such as the emergence (or decline) of moral panic, political movements, and general opinion-forming processes. For this reason, we should be aware of the full impact of trust and approach it as a natural component of human information processing. Trust should be considered a rather basic and somewhat primordial aspect of how individuals relate to each other socially through communication.

Only through such awareness can we scientifically address the dangers and opportunities related to trust. Part of this is a better understanding of how the human mind perceives and structures its social environments as social multiverses—and how this impacts the formation of human communication networks. A theory of social interference can help us to theoretically and empirically approach the experience of social relationships right where a multiverse starts—at the communication and processing of actor-related information. With such knowledge, we could better understand why trust and the experience of social relationships are such essential foundations of how we experience the world.

Glossary

actor-related information: A type of information that humans memorize about their interactants based on what they sense and process as their interactant's social presence.

ambiguity: A contingency that is defined by a shared likelihood of different opposing events.

asymmetry in social ties: The idea that two sides of a social tie provide different social resources or sets of knowledge. This often leads to disparities in hierarchy and power between the interactants and can also result in different perceptions, opinions, beliefs, and expectations.

attention: The selective concentration on information by an individual through the sensory registry.

cognitive processing: see "information processing"

coherence stream: The idea that human consciousness simultaneously produces momentary impressions of the past and future of social interactions and connects these impressions to a coherent experience of a social relationship with an interactant (see "social relationship").

collaborative consumption: An economic model based on decentralized sharing, swapping, trading, or renting products and services, enabling access over ownership through distributed networks (cf. Botsman & Rogers, 2011).

collective memory: A decentralized, shared pool of information between two or more people that allows individuals to retrieve knowledge through collaborative media such as online networks, word of mouth, or digital databases.

communicational relation: The most basic type of relation between social actors, established by the simple exchange of information (including silence or periods of no interaction). As an analytical term, the idea of a communicational relation helps us to deal with the informational foundation responsible for any type of reciprocity or sense of relatedness between two actors.

conduct: An actor's general actions toward an interactant, including behavior, emotional response, or the way one participates in interactions.

conductional risk: A risk defined by contingencies regarding conduct in social interactions.

conductional vigilance: A type of implicit alertness or sense of suspicion originating from the cognitive workload that is required to process conductional risk.

confidence: The automated and implicit retrieval of knowledge in the human mind whose function is to improve or ease (social) performance.

consistency: The perceived degree of disambiguation in the reception of public mediators that will determine the experience of social presence through these mediators.

contingency: A possible future event that cannot be predicted with certainty.

continuity stream: The idea that social relationships are abstract objects that grow unidirectionally on the basis of past experience, and whose homeostasis is driven by balance and consistency.

complexity: A contingency that is defined by an overload or lack of information.

danger: A possible harmful event.

digital immediacy: The idea that the multidirectionality of many digital technologies enables users to experience very strong types of social presence.

digital social resonance space: A digital environment that allows individuals to sense and process social presences and experience social relationships through communication media.

digitalization: The social change that evolves in symbiosis with an ongoing digitization.

digitization: The process of converting, sending, and receiving analog streams of information into digital bits (preferably binary numbers) with the help of electronic devices that share the same code and language system.

direct copresence: The social presence of an interactant that an individual processes as part of face-to-face interactions.

disembedding: The loosening of social ties and their increasing reliance on communication media in the course of modernity (cf. Giddens, 1991).

distrust: An extremely negative type of relational confidence and outcome of trust. In the literature, it is often referred to as the opposite of trust (see "mistrust"). In the context of this book, it is understood as one potential outcome of trust's dynamic algorithmic programming.

double contingency: The idea that both sides within a social interaction experience a mutual awareness of their own and the other side's conduct, which leads to an inclusion of the other side's point of view into one own's mental processes.

ease of conduct: The ability of human consciousness to reduce or completely bypass conductional vigilance in social interactions e.g., through the establishment of relational confidence.

exteroception: The sum of percepts that originate from the sense of the outside world.

formalized relations: Relations that are based on shared rules of conduct.

global intelligence: A growing interconnected knowledge resource that has evolved from a convergence of biological and technological progress.

heuristic principle: The foundation of any rational thought, in the sense that any rational activity, whether conscious or subconscious, can be thought to be based on the cognitive retrieval of (common) logics. In other parts of the literature, the term is used more narrowly and refers only to "simple" common logics.

human communication network: A network constituted by communication channels in which one tie is defined by a communicational relation (rather than by physical interaction) between nodes.

information processing: A field of research that focuses on the processing of information in the human brain and includes elements such as perception, attention, memory, cognition, and motoric functions (cf. Dosher & Sperling, 1998; Streitz, 1987).

information processing metaphor: A metaphor suggesting that the human brain functions similarly to a computer.

innovation: In the context of human communication networks, the term refers to the emergence of new types of interaction and their consequences on conductional routines and social structuration.

interactional presence: The social presence of an interactant that an individual processes as part of a bidirectional tie.

interconnectivity: The general ability of consciousness to develop an internal sense of relatedness and connectivity with other social actors.

interoception: The sum of percepts that originate from the sense of the internal state of the body.

intersubjectivity: A vague sense of interrelatedness between two or more actors that refers to the variety of possible relations between people's perspectives (cf. Gillespie & Cornish, 2010; Schützeichel, 2004).

knowledge: Any memorized information that is in the process of being retrieved from the long-term memory for temporary usage.

mental algorithm: An automated sequence of events in the human brain.

memory: A term used for a variety of systems in the brain that implies the ability to reinvoke or repeat a specific mental image or physical act (cf. Edelman, 2005).

mistrust: Often used as synonym for "distrust." It is also sometimes used to refer to either a lack of trust or the presence of negative expectations, while

distrust is more commonly defined as a distinct sense of skepticism toward an actor.

motoric processing: see "information processing"

multirelationality: The variety of relations between two actors, including the multiplexity and multifacetedness of these relations.

network presence: The social presence of an interactant that an individual processes as part of a multidirectional tie.

neural net: A series of interconnected neurons in the human brain (cf. Squire, 1986).

parasocial relationship: A term often used to refer to an illusionary type of relationship that individuals experience toward social actors with whom they cannot directly engage.

perceptual processing: see "information processing"

protention: The mind's observation of the future (cf. Schütz, 1974).

public mediators: Institutions or actors who mass distribute content to larger audiences and enable the individual processing of the social presence of certain actors.

public presence: The social presence of an interactant that an individual processes as part of a unidirectional tie.

random relations: Relations that are not based on shared rules of conduct (see "formalized relations").

rationality: The forming of expectation in the working memory through the retrieval of logics or heuristic principles.

relational confidence: A type of confidence that is based on the retrieval of relational information.

relational information: A type of information that originates from social interference in the human brain and refers to the degree of shared identity and intersubjectivity with an interactant. Thus, it serves as one of the foundations for the experience of social relationships.

relational knowledge: Any relational information that is in the process of being retrieved from long-term memory for temporary usage.

reliability: The perceived degree of believability and authenticity in the reception of public mediators that will determine the experience of social presence through these mediators.

remembering: The retrieval of knowledge from the long-term memory.

retention: The mind's observation of the past (cf. Schütz, 1974).

risk: A mental state that is characterized by an individual's general inability to process or sensorially deal with contingency.

shared identity: A colloquial term for the subjective perception of a common ground between oneself and an interactant and a level of shared experience and expectation.

sharing economy: An economy built on "collaborative consumption."

share economy: An economic model that incentivizes the payment of share profits or revenues to employees to avoid stagflation (cf. Weitzman, 1984). It is sometimes used as a synonym for "sharing economy."

social capital: The entirety of current or potential (social) resources in a social network (cf. Bourdieu, 1983).

social collateral: Network connections between individuals that can be used to secure information flows (cf. Karlan et al., 2009).

social interference: A process in which our brain disruptively merges the processing of actor-related information with our sense of self, which results in the memorization of relational information. It can be considered the foundation for any implicit sense of relatedness and experience of social relationships.

social media: An umbrella term for forms of electronic communication through which users can share content and participate in social networking.

social multiverse: The idea that human consciousness processes each relation with another actor as part of a distinct universe and independent unit. Thus, each experienced social relationship features its own rules and may result from a distinct body of information peculiar to each interactant, including his or her individual history, contingencies, and behavioral routines.

social networking services: Online services that enable users to participate in social networking (see "social media").

social presence: An information source for the active experience of an interactant that produces the illusion of spatial copresence and temporal synchronicity with the interactant. This perceived level of immediacy can also originate from mediated types of interaction. Social presence further allows the human brain to memorize actor-related information and produce relational information through social interference.

social relationship: A momentary experience in which our brain tries to simultaneously make sense of the past and future of our interaction with an interactant and produces the impression of a coherent sense of relatedness with that interactant.

social skeuomorph: A digital object or feature that imitates the design of human social interaction.

social ties: An analytical term that refers to information-carrying connections between people and highlights the idea that, from an external perspective,

two or more actors are in some way related through a linkage, interact with each other, and may have a sense of reciprocity.

social universe: The idea that human consciousness processes all interactions with others as part of a shared external universe in which all interactants are representatives of that universe.

theory of mind: The field of research based on the idea that individuals can attribute particular mental states (such as beliefs, intentions, or desires) to other social actors (cf. Goldman, 2012; Perner, 1991).

theory of social interference: A theory and proposed research field that is built on the idea of social interference. The theory suggests that any interconnectivity and experience of social relationship originates from a collision of external and internal information in the human brain.

time flow: The idea that time is an entity that moves unidirectionally from the past to the future (cf. David Deutsch, 1998).

transparency: The perceived degree of information-density in the reception of public mediators that will determine the experience of social presence through these mediators.

trust: Part of the basic algorithmic programming in the human brain that converts relational knowledge to relational confidence during interactions with others.

trust climate: The measurable impact of relational confidence on a human communication network.

trustworthiness: A reference category that is part of a collective testimonial about another social actor and can be processed by the human mind as a foundation of rational expectations toward that actor.

uncertainty: A contingency that is defined by the unknown likeliness of an event.

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