Chapter 2
Macro-Structural Perspectives on Social Differentiation and Organizational Evolution in Online Groups

2.1 Introduction

Humans are social animals. Sociability is not a mere behavioral accident. On the contrary, it is probably what makes us human in the first place. Some have claimed that language is the defining characteristic that sets the human species apart, while others claim that the distinguishing factor is reason, art, or even humor. All of these are true, to an extent, as they are key components of our ability to socialize—a behavior in which humans engage more frequently and more dynamically than any other creature.

This is, of course, when observers do not claim that evolution only incrementally pushed some human traits a bit further than other species while simultaneously restraining certain other traits. By this account, the difference between humans and other animal species would be incremental and quantitative rather than qualitative.

Regardless, sociability is the pillar upon which collaboration can occur and through which human society as we know it today was built. The vital functions of families, clubs, businesses, communities, nations, and our increasingly connected world hinge upon social interactions. One can consider the paper on which this book was printed (or the e-reader screen on which it is displayed), the money that you used to purchase it, the profession through which you secure your income, and so forth. All of these artifacts only arise from our engagement with those around us, and those essential elements of our lives in turn give rise to new means of socialization. Every element of day-to-day human existence that we take for granted as being unique to our species is, in fact, only possible because of social engagement. It should come as no surprise that *sociability* stands as the crux of *society*.

Although this volume is not intended to resolve the age-old philosophical argument about the uniqueness of human existence, it does stake out a perimeter in the debate about the nature of online sociability, which we see as a very specific phenomenon with particular characteristics. To accomplish this, we need to start with a few preliminary considerations about social behavior in general, as online sociability

is a species of a given genus. This discussion is necessary because sociability is the unavoidable criterion for defining human existence and, moreover, because it can be seen as a superseding factor that may explain many other human phenomena.

In consequence, any explanation of what humans do, especially when they do something socially in a new way (e.g., invisible communities mediated by digital technologies), needs to account for the deeper meanings of the social nature of the behavior and related forms of organization. In what follows, we will outline how the human propensity for sociability shapes the emergence of some truly novel and unexpected forms of collaboration such as that observed on Wikipedia as well as other types of social media that produce useful knowledge.

2.2 Human Sociability: Possible Definitions

To begin, let us consider sociability at a rather deep and not so intuitive level. We may first state that sociability is a useful and necessary term because it does not simply state that humans are social. Rather, sociability further signals that humans are social in a special, human way. Our focus on sociability is a pointed one, as we believe that sociability encompasses the concepts of social order, social meaning, social roles, and social structure (Blau 1977). To paraphrase the famous dictum of the communication scholar Kenneth Burke, humans are "goaded by the spirit of hierarchy" (Burke 1966, p. 16). Otherwise put, there are at least theoretical reasons to believe that sociability is related to more specific concepts, such as patterned social interactions that lead to meaningful social structures and roles (Berger and Luckmann 1980). At the same time, sociability cannot be reduced to a form of transactional individualistic organization in which only individual, autonomous, locally oriented acts matter. Otherwise, much of what people do offline or online, including the staggering inequality of effort and rewards, would be hard to explain.

Further, our use and understanding of term "sociability" rest both on a deeper, more philosophical foundation and on more tangible theorems about human interaction and organization (Schutz 1967). At the deepest level, our concept of sociability taps into the deeper meanings of Aristotle's famous dictum, "*anthropos zoon politikon*." Translated by some as "the human being is a political animal," we prefer the interpretation "humans are sociable animals." In the former English rendering, the aphorism misses the true point of Aristotle's vision of human essence. His use of the word "politikon" was forced by the nature of Greek thinking at the time, which identified living in a city (polis) with living in a polity, that is, the Greek city state, which to him meant "living in a society." Yet, what Aristotle truly meant to say is not that "man" (as he understood it in a gendered way) is limited to those who lived in Greek states. His intention was to define universal man, Greek or barbarian:

> Hence it is evident that the state is a creation of nature, and that man is by nature a political animal. And he who by nature and not by mere accident is without a state, is either a bad man or above humanity; he is like the "Tribeless, lawless, heartless one," whom Homer denounces—the natural outcast is forthwith a lover of war; he may be compared to an

isolated piece at draughts. Now, that man is more of a political animal than bees or any other gregarious animals is evident. Nature, as we often say, makes nothing in vain, and man is the only animal whom she has endowed with the gift of speech. And whereas mere voice is but an indication of pleasure or pain, and is therefore found in other animals (for their nature attains to the perception of pleasure and pain and the intimation of them to one another, and no further), the power of speech is intended to set forth the expedient and inexpedient, and therefore likewise the just and the unjust. And it is a characteristic of man that he alone has any sense of good and evil, of just and unjust, and the like, and the association of living beings who have this sense makes a family and a state. (Aristotle 350 B.C.)

In Aristotle's view, the human being is unique because to function, he or she needs a community of beings like him or her. This is necessary not merely to survive in the most immediate sense, but more importantly, to grow, to become autonomous, and to contribute back to the survival of the larger community that makes his or her own subsistence possible. To this end, the community will, by necessity, use language to instruct, command, educate, and support. The social ties that the community needs to bind and support individuals to maturity will be articulated by logical thought and reasoned principles but also by emotionally expressed connections. Logic and reason and affect and emotion always occur in the context of language and communication. Communication is symbolic, and thus it conveys messages through a variety of means, from commonplace verbal discourse to highly stylized artifacts and representations of shared meaning. Such methods include both sciences and the arts, from the fine (painting, sculpture) to the performative (poetry, theatre, dance).

Throughout the process of making humans what they are through communication and culture, sociability will bestow on some certain roles, complete with associated rights, privileges, and obligations, while to others various alternative roles. Fathers and mothers rear and teach sons and daughters some basic elements of being human. These include customary habits of behavior and thought, elementary moral principles, and rules of social conduct ranging from good manners to religious and ethical principles. After a certain age, teachers take over this educational role, and eventually, humans learn their trade of being human "on the job" as members of various institutions, groups, and social arrangements that are more or less formally defined. In each of these situations, starting with what was initially defined by the family context, certain divisions and situations—at some times, of labor, and at others, of power and privilege—teach humans to work with, to submit to, or to take control over others. These constraints teach growing individuals that human affairs are patterned interactions by which individuals assume one or more roles that give them just as much as they take in terms of autonomy.

Of course, this learning on the job, "learning by doing," does not mean that the social institutions, the roles, the power arrangements, or the difference between the "haves" and "have nots" that they often entail are natural or justified. All roles and the privileges or privations they entail are the product, after all, of a place and a time in which human ideas of worth, power, and representativity are influenced by a variety of factors. These may be merit-related, or they may be mere accidents of human inequality or chance. Roles and rules are subsequently consolidated by

religious or quasi-religious justifications of sacred vs. ordinary vocations or reinforced by material interest, birthright, raw power differences, or pseudo-moral principles of the "first come, first served" kind (Weber 1947).

Yet across, above, and beyond the particular ways in which roles and social forms of organization exist, and superseding any discussion about one's ethical, moral, and justifiable existence, being human inevitably hinges upon assuming and enacting roles within social institutions (Schutz and Luckmann 1989). In fact, if we are to believe that there is a possibility to improve the human species in the social and moral realm, we have to believe that this can only be done by making sure that roles are acquired or rights and obligations distributed in an equitable, just, and moral way. The alternative view that the human vocation is to free humans from all roles and organization, that human autonomy is the only measure of all good things, and that roles, rules, and obligations must be abolished has remained so far the province of utopian projects that have failed and continue to fail in practice, from the short-lived radical Anabaptist communities of the Protestant Reformation to the doomed province of some communist experiments shortly after 1917 and the hippie communes of the 1960s.

With all of this said, Aristotle's dictum is not merely another metaphoric utterance of an ancient figure about the out-of-fashion idea of "man," with all the baggage this interpretation might mean. Although he lived in a world that is quite different from ours in mores, technology, and social institutions, not to mention the implicit definition of "men" as male, Aristotle's definition of humanity nevertheless includes a formal and comprehensive idea of sociability, which by necessity and definition includes communication, symbols, meaning, reason, and emotion. This urges us to highlight the human vocation as engaging with others in a meaningful, patterned way, emphasizing sociability in particular, as the main way to understand humans.

Returning full circle, human sociability is thus the crux of human existence in that its regular patterns of interaction, guaranteed by norms and role and reinforced by values and symbols, are, in the end, the core of human life. This philosophical principle, however, cannot simply be proclaimed in isolation. In stating it, we need to both fall back on and project a set of theorems about human interactions and human social life. These ultimately suggest that regular, role-based interactions with others are the *sine qua non*—the indispensable ingredient—not just of a *good* human existence but of *all* human existence.

2.3   Sociability and Structural Differentiation

Classical sociology (Alexander 1982; Levine 1995; Nisbet 1993), which has been extended through rigorous theoretical and practical work in modern social psychology (Alexander et al. 1987; Hare et al. 1965; Hogg 1992), emphasized the role of social differentiation and the emergence of division of labor as essential instruments for understanding the evolution of human sociability. From Durkheim (1893) to

Bales and Slater (1956), and further through a variety of social scientific studies, sociology has delineated a theory of social organization that strongly relies on the importance of social roles and social structures for understanding human sociability. A simpler way to put it is that sociability, as a broad philosophical concept, relies on a conceptual infrastructure. This has, at its core, the idea of social structure: patterned, predictable interactions that emerge from a given division of labor. Here, division of labor expands past the narrow concept of material production, entailing any and all human collaborative processes that lead to a finished product, material or immaterial (Friedson 1976; Merton 1934).

Any division of labor necessarily implies a process of structural differentiation in which certain group members perform certain activities unique to their roles (Friedson 1976). The emergence of this role and performative allocation is not merely conditioned by formal arrangements; it stems from the natural preconditions of effective group work itself. One of these preconditions is that the amount of work expended by each individual to monitor other members should be minimized, while the amount of work performed that directly contributes to the final production of the intended object of the collaboration must be maximized. Groups in which roles are poorly differentiated force members to spend a significant amount of time monitoring other members in order to prevent replication of duties or work performed, to learn new processes and norms, or to avoid mistakes. In the absence of well-defined and distinct roles, individuals also have to ensure that costs and benefits are equitably distributed. As groups increase in size, the amount of information that needs to be collected about the other members of the group and about the state of the group as a whole increases. Collection and processing time expands. Soon, individuals spend more and more time monitoring each other, devoting less and less time to working on the task at hand. Thus, a group of undifferentiated collaborators will eventually collapse under the weight of its communication and coordination demands.

However, as soon as a subset of individuals begins to specialize in communication and coordination—in other words, as soon as at least two roles emerge, that of coordinator and "worker"—groups can again grow without putting undue strain on the collaborative process, at least up to a point. Eventually, when the coordinators themselves receive so much information that it exceeds their physical processing capabilities (natural or augmented by various technologies), the group will again stop growing and its efficiency will start to decay. A new round of structural differentiation, by which coordinators specialize in specific functions—some collecting, some processing, and some relaying information—can unlock the next horizon of organizational growth. Similarly, as workers themselves start to specialize in specific tasks, which are coordinated by dedicated role-playing individuals, the organization will begin increasing in sophistication and improving its ability to grow and explore new levels of complexity.

Of course, growth has its limits, even when supported by structural differentiation (Blau 1972). As new layers of command, control, and coordination emerge, the roles assigned to these functions are connected to the actual work through increasingly extensive and longer chains of command (Blau and Schoenherr 1971). Roles

themselves become ever more autonomous, gaining new identities and missions that are sometimes disconnected from the job at hand. In short, especially complex organizations with multiple layers of command and control tend to place the mission of mere organizational preservation and the interests of the roles found at the top of the pyramid ahead of the real mission of the organization. Furthermore, as information is collected by some roles, processed by others, and disseminated by yet another role-playing group, signals become attenuated by noise. Information is inevitably lost along the way or, worse yet, cherry-picked in order to support individual needs or political ends rather than the goals of the organization (Blau 1970).

Therefore, structural differentiation is not necessarily an absolute, normative solution to the requirements of human organization, nor it is infinitely expandable (Blau 1970). Yet, for organizations that emerge spontaneously, the path of structural differentiation is the one that they follow up to a certain point. We should expect it to emerge in most situations where human groups aim to solve a certain task, as role-based differentiation provides context for individual work and life.

The debate mentioned so far not only follows in the footsteps of classical sociology harkening back to Durkheim, but it is also connected to more recent debates about the natural limits of human organization as facilitated by normed roles and interaction patterns (Burgers et al. 2009; Cullen et al. 1986; Mayhew et al. 1972). It also intersects with Olson's (1971) ideas about the prerequisites of "collective" action and the "free riding problem." Just like in Olson's public goods production processes, in our research we noticed that online collaboration works well when there are selective incentives for the active members. In our case, such incentives are a sense of ownership and the intrinsic psychological reward active users get from shaping a given online collaborative project. These motivators lead to a production system that is driven by a small group of contributors, who have both a higher level of investment in and reward from the project, while the rest more or less benefit from their work. Our work also intersects with Marwell and Oliver's (2007) ideas on critical mass, which established that a critical mass of dedicated individuals may propel social movements and voluntary projects. Like them, we think of this group of dedicated individuals as constitutive. We also agree that the critical mass concept should not be seen as the mere minimum number of participants, but as the minimum number of *active* (high contributing) participants needed to jump start a project. In other words, the "1% effect" that underlies our argument (the top 1% of users effectively shape and are shaped by online collaboration through social differentiation) is closely related to the critical mass argument.

However, our work is not a mere derivation of Olson's or Marwell and Oliver's prior work. We are not directly interested in the public goods nature of the products generated by online groups, as Olson would be, nor in the "production functions" that may or may not moderate the self-sustaining chaining-out process of collaboration, which are at the heart of Marwell and Oliver's work. Instead, we focus on the social and communicative dynamics that lead in time to social structuration and differentiation. While complementary, this is a distinct problem, with its own research questions.

Our work also intersects with other scholarly debates, especially those that emerged around the discussion introduced by Coase (1937) about the nature and limits of formal business organizations (Ellickson 1989; Gibbons 1999), as well as the debate about the possibility of "peer production" (Benkler 2002).

While these are fascinating topics, our book will not formally or directly engage such arguments. Our focus is much more specific. Simply put, we aim to test if voluntary knowledge production organizations such as Wikipedia can be seen through a structural differentiation perspective, if specific phases can be discerned in their life cycles, and if elites emerge while differentiation is ongoing. We also investigate the process of organizational change more broadly, proposing a new multidimensional perspective for understanding organizational evolution and the "motors" that move it forward.

2.4 Online Sociability and Structural Differentiation: Connections and Directions of Study

To conclude this overview chapter, it is worthwhile to outline in summary the theoretical ideas behind our specific structural differentiation theoretical framework and the possible ways in which it can explain knowledge production organizations online. In particular, the following pages focus on some core concepts, especially sociability, differentiation, and adhocracy.

Since this volume is not one of general theoretical sociology, but one rooted in communication research and dedicated to examining specific social groups mediated by technology, sociability needs to be adapted to serve the more immediate research context. In that respect, online sociability is the set of generalizable rules by which we can describe regularities in online social interactions and communication. Here, again, we do not take sociability to be an empty tautology by which we simply designate what people do in online groups (viz., interacting with other people online). To be useful, online sociability needs to account for several factors: low barriers of entry and exit, weak pressures to conform and commit, and voluntary and natural interactions (Blanchard and Markus 2004; Ciffolilli 2003; Rheingold 2000).

Online sociability should thus be seen as structured and flexible, hierarchical and relatively decentralized, normed and anti-normative, and authoritative while not authoritarian. Of course, this only offers a general set of tendencies, thus allowing online sociability to take a range of possible forms. Yet, through embracing these attributes, online sociability comes to resemble other, more traditional terms, such as "adhocracy." First proposed by Warren Bennis (1968) and further developed by Alvin Toffler (1970) and Henry Mintzberg (1979), among others, adhocracy describes a form of social organization that supports organically emergent groups in which roles are achieved, not prescribed, and in which members enter and leave the organization at a certain rate, which is neither very high nor very low. At the same

time, adhocracy does allow for roles which, even if temporary, are occupied by certain members for a nontrivial period of time. Such roles carry real power, and this power has consequences. Similarly, control and communication mechanisms exist alongside norms, rules, and enforcement mechanisms, thereby enabling the development and application of a power structure based in functional roles. Yet, again, adhocratic roles are weakly formed and achieved by completing their attendant obligations, not by formal induction, nomination, or election.

While it is not a new term, we aim to instill adhocracy with sufficient theoretical rigor, buttressed with empirical evidence, to justify a new take on an old problem: how and within what parameters do new forms of human organization appear?

Within this context, a significant theoretical effort should be made to better circumscribe the role that elites and leadership groups play in the social context of adhocracy. Here, the most important issue is that of articulating the contributions that elite groups offer in structuring social groups online. This point is developed in the next chapter.

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