Introduction

What Is Ritual?
Its Definition and Characteristics

As Glenna began the opening conjuration of the ritual, a silence fell over the circle. Through the castings and chargings of the circle, through the invocation of the Goddess, it grew, and as Albion and Loik and Joaquin Muriel hammered out a dancing rhythm on their drums, as we whirled in a double sunwise ring, that silence swelled into waves of unseen lightness, flooding our circle, washing about our shoulders, breaking over our heads. Afterwards we wandered about the gardens, laughing and clowning, drunk on the very air itself, babbling to each other: it worked!

—Margot Adler, Drawing Down the Moon

A common misconception in the industrialized world holds ritual to be something that goes on in more primitive societies, while we, in our scientific enlightenment, lead rational, non-ritualistic lives. But the facts are otherwise. All human cultures, including our own, use ritual as the physical and metaphysical means for dealing with everyday life and the mystery and unpredictability of the physical, psychological, social, and cosmic realms. Ritual plays significant roles in the social behaviors of most animal species—its pervasiveness in human life reflects ancient biological programming that allows members of a species to communicate and coordinate their lives through behavioral symbols.
What is ritual? What elements does it consist of—what characteristics constitute its anatomy? What does it do and how does it work? What do animal and human rituals share in common? Why does human ritual often produce an experience of the sacred, spiritual, and supernatural? And why does it just as often work toward secular, practical ends? Why does ritual constitute what anthropologists call a *cultural universal* (meaning that it is found in every culture and society)? Where does its power come from, and how can societies and individuals tap that power?

We will address these questions from an anthropological point of view that integrates biological, psychological, neurological, sociocultural, and spiritual perspectives on ritual. Anthropology is the study of humans in their myriad manifestations. It includes comparisons of human and animal behaviors, and studies ranging from the fossilized bones and habitats of our ancestors that provide clues about human evolution (called physical anthropology), to the ruins of ancient societies (archaeology), to the development of languages across cultures (linguistic anthropology), to the complexities of historical or contemporary cultures (cultural anthropology)—and many other subfields of these.

For the past century and a half, cultural anthropologists have left the familiar surroundings of their own homelands to study other cultures and to try to make sense of them in terms that non-members can understand. In every culture they have studied—including their own—anthropologists have encountered rituals. These range from the ritualized daily behaviors of an individual to the group dynamics of a crowd, from the simple prayers of a family sitting down to eat to a Jewish Passover Seder to lavish large-scale ceremonies like feasts and seasonal holidays. And today we can speak even of global rituals in which billions of people across the planet participate in the same experience at the same time, including, for examples, the celebrations marking the dawning of the Third Millennium, the funeral of Princess Diana, the wedding of Kate Middleton to Prince William, the Olympic Games and football’s (soccer’s) World Cup, and, very specific to the United States, the large-scale rituals performed to honor the dead of 9/11 and to commemorate the deeply felt national experience of being attacked on homeland soil (for the first time since the British attack in 1812).

Many of the individual elements of these rituals seem incomprehensible at first glance. Why, for example, do the So people of Uganda have a ritual in which they smear themselves with gray clay and march around in formation waving their walking sticks in the air? Why does a Catholic priest wear long white robes? Why do shamans dance ecstatically for hours to “heal their community,” and why are their practices remarkably similar around the world? Why have some of the ancient spiritual healing rituals of shamans been adopted by modern educated professionals? Why is it
important to perform the rituals of your religion—if you have one? Why do actors, before performing a play, often gather together in a circle and chant?

Often it is only after months or years of fieldwork that the anthropologist manages to figure out the meanings of such practices. Yet anthropologists have found that this effort to “decode” the rituals of other cultures—and their own—is always worth the struggle, for such rituals often embody the most essential elements of the culture. Rituals are performances in which cultures—and individuals—describe and display their deepest values and beliefs. Performing these rituals is a part of human nature and biology that is deeply embedded in genetic evolution.

During the 20th and early 21st centuries, anthropologists have made enormous strides in understanding ritual, and ethologists (scientists who study animal behavior) have expanded our knowledge about the broad evolutionary basis of ritual through studies of other species of social animals. Yet much of what these scholars have written about ritual is highly technical and its implications are inaccessible to the general public. This book synthesizes a myriad of anthropological and ethological discoveries about ritual in what we hope is a straightforward and useful format. Its purpose is to explain ritual to people who use it, to people who are interested in it, and to students engaged in its study, and most definitely not to explicate the multiple and complex theories that anthropologists have developed about ritual over time. This book is not about ritual theory but about ritual itself—what it is, what it can do, how it works, what makes it powerful, what makes it dangerous, and most of all, what makes it useful to contemporary humans.

We also intend this book to serve students of various social sciences—especially anthropology, sociology, comparative religion, religious studies, political science, and others—as a comprehensive textbook, a single source that can complement and draw together the myriad of articles and bewildering tomes professors presently use to teach about ritual. For the general public, our principal purposes in writing this book are to: (1) help our readers to understand why so many people feel the need for rituals and what exactly they are doing when they create or participate in rituals (we include an Appendix on “How to Create and Perform an Effective Stage 4 Ritual”); (2) explain why, when people try to change ritualized behaviors (their own or those of others), they may discover that it is harder to accomplish than they imagined; and (3) draw public attention to ritual’s power and potential to be used both for good and for ill—what William Sax (2010) called the efficacy of ritual. Public awareness of ritual tends to focus on its positive aspects, but the shadow side of ritual is as powerful as the light. Ritual may be used for the good of individuals, communities, and even corporations, as well as manipulated by politicians, religious and cult leaders, and others to sway people’s perceptions, emotions, and behaviors in harmful ways.
Animal and Human Ritual as Behavioral Coordination and Communication

We recognize when an animal is on alert by its taut body posture because when we are on alert, ours is in much the same state. An elephant troop forms a protective circle around a female giving birth, just as do medical or midwifery teams and family and friends. Baby bears mimic the battles of their elders in play just as human children do. The alpha gorilla beats his chest, the male stag vies for a female’s attention by stomping on the ground to challenge his rival, the guy in the bar flashes his cash when paying the bill while glaring at his potential rival. Similar behaviors in other animals shed light on the underlying causes and functions of human ritual, helping us to see how those behaviors are linked to basic brain functions.

Ritual addresses an adaptive problem encountered by all species: how to coordinate the actions of individuals into collective, socially coherent and coordinated patterns. All large-brained social animals exhibit ritualized behaviors (Schechner 1993: 229). Studies have shown that both the social play of animals and human rituals are formats for instilling and developing altruism—a requisite for cementing social bonds (see Chick 2008). At times, individual desires and behaviors must be superseded in order for group activities to be coordinated. This coordination requires controlling the information transmitted among members of the same species, and the meanings of that information. Studies of ritualistic behaviors in non-human animals indicate their fundamental importance in communication—these ritualistic display signals were selected through evolution to enable members of animal groups to provide information to each other. Animals and birds use often complex rituals in order to warn each other of danger or prepare themselves to mate—rituals we call “foreplay” when humans are concerned (see Spomer 1996 for North American herd animals; Léveillé 2007 for birds).

Animal rituals are techniques for both communicating and coordinating behavior. Ethologists have called these animal rituals fixed action patterns, because they are basically instinctual and once begun, are usually carried out to completion. Animal ritual displays are a type of fixed action pattern known as “intention movements”—in this case, actions that signal a readiness for certain activities (e.g., a set of movements preparing birds for flight or for mating). These stereotyped, patterned, and repetitive bodily movements or sounds communicate basic messages and synchronize cognitive processes and movements across individual participants to coordinate the behavior of the group (d’Aquili, Laughlin, and McManus 1979: 156; W. J. Smith 1979, 1990; Salzen 2010).

Humans also manifest fixed action patterns—like sucking, grasping, crawling, and walking—that are genetically “wired-in” to our body’s organization.
In other words, animals and humans alike have the capacity to ritualize behaviors—to learn to sequence one behavior after another to get something done (see d’Aquili, Laughlin and McManus 1979: 28–41; Bell 1997: 80–81). As among animals, ritual in humans serves a primary biological function in facilitating coordinated group action. For example, the formalized displays of animals are continued in the nonverbal communication—body language (Rowlands 2006)—of humans, such as behaviors for greeting and challenging others. Animal uses of ritual to establish, maintain, and recognize differences in social status—like that of the alpha female or male—also remain prevalent in humans, who find ritual essential to asserting and maintaining social roles or “face” (see Goffman and Best 2005).

Since participation in ritual requires coordination of individual processes with group patterns, ritual serves biologically as a mechanism for socialization. Ceremonial rituals found in all human societies are analogous to certain animal behaviors and displays, from gatherings of wolf packs to the seasonal migratory patterns of birds. Ritual is fundamental to the adaptation of all big-brained social animals, and we humans inherited our ritual proclivities from our pre-human animal past. Indeed, ritual is so integral to human social and cognitive evolution that, as Tom Driver (1991: 10) wrote, “to study humanity is to study ritual.” Concordantly, Ronald Grimes (1996a: 1) notes that “Ritual is one of the oldest human activities—often considered as important as eating, sex, and shelter,” and asks: “Why has it persisted so long? Why does every attempt to suppress it result in creating it anew? What makes ritual seems at once so foundational that even the animals do it and so superfluous that Protestants once imagined they could dispense with it altogether?” Popular conceptions often generally characterize rituals as ineffective, repetitive, meaningless actions or as merely symbolic statements that produce no results in the world—as just “habits,” “customs,” or “traditions.” Yet on the contrary, as we will show throughout this book, rituals can be instrumental, producing effects at multiple levels. Understanding ritual requires perspectives that address the multiple instrumental dimensions of its effects; we will provide these perspectives in the following pages.

Our Definition of Ritual

There are many, many definitions of ritual from which one may choose (see Bell 1992; Grimes 1990, 2014: 193–94). There are also many views on the nature, functions, meaning, and efficacy of ritual in anthropology (see Handelman 1998:10–11; Snoek 2006). Most anthropologists concentrate upon the role of ritual in religion (e.g., Stewart and Strathern 2014), for many of the rituals we anthropologists encounter involve magic and the
supernatural (spirits, gods, ancestors, ghosts, etc.). But in this book, we include the secular, nonreligious use of ritual.

We will use a definition that Robbie developed ([1992] 2003a: 8): “a ritual is a patterned, repetitive, and symbolic enactment of cultural (or individual) beliefs and values.” Since Robbie’s formulation is a foundational concept for our book, we now consider each of its components.

Patterning, Repetition, and Symbolism: Coordination and Communication

A quick run-through of events that have long been called rituals in both the scholarly and popular lexicons immediately makes obvious the reasons why we say that patterning and repetition are two of the definitive characteristics of ritual. Events consensually labeled rituals include, among many others: church services, parades and processions, greetings and farewells, folk dances, pilgrimages, certain types of healing, bar and bat mitzvahs, graduations, initiation ceremonies, and presidential inaugurations. We think the reader will grant us that everything on this list is immediately recognizable as ritual and also as highly structured behavior that entails a distinct pattern. One recognizes a parade as different from normal traffic on the street because of the distinctive pattern of the parade—a pattern that repeats itself over and over in the various groupings that constitute the parade, from the bands that march by to the clowns and the floats.

Normal traffic on the street is also patterned and repetitive of course—most of cultural life is (see Schechner 1993). This is where the third adjective in the definition comes in: ritual is patterned, repetitive, and symbolic behavior. This notion of “symbolic” emphasizes that ritual is a form of communication (Rothenbuhler 2006; Senft and Basso 2009). Normal traffic on the street does not symbolize or communicate anything in particular. People on the road generally are not trying to make a statement by driving—they just want to get where they are going. The instrumental goal—getting there—is the most important reason for driving. A parade, on the other hand, is intentionally designed to be symbolic. Through parades, communities enact and display their values and celebrate their unity and diversity. Thus, parades are rituals: patterned, repetitive, and symbolic enactments that communicate cultural beliefs and values.

But wait, you say! When people drive, they are not just driving, they are also making symbolic statements. The kind of car they drive and the way they drive convey messages to others about the kind of people they are, their socioeconomic status, and so forth. And the endless flow of traffic on city streets is powerfully symbolic of the “rat race” of technocratic life.¹ So right
away, as we try to define ritual, we are confronted with a problem that has plagued all those who have tried to write about and explain ritual: it is often hard to separate ritual from everyday life.

Clearly a church, mosque, or temple service is a ritual—it is patterned, repetitive, and highly symbolic—but in some ways so is an ordinary conversation. Conversations generally observe rules for turntaking, employ repetitive elements, begin with greeting formulas and close with formulaic farewells, stipulate appropriate social space, and can symbolize many things (Tannen 2005). Everyday acts like doing the laundry, cooking a meal, and getting dressed in the morning can also be patterned, repetitive, and symbolic. This fact reflects the deeply embedded nature of ritual within human behavior. Human behavior is ritualized at many different levels, some of which are shared with other animals, like grooming and greeting rituals and the sequencing of everyday activities. But humans have ritual behaviors that are unique to humans, and reflect the different adaptive needs of human communities. Consequently, understanding ritual requires that we distinguish among different forms of ritual behavior.

We suggest that ritual should not be thought of as something fixed, concrete, and discrete, but rather can most usefully be understood as existing on a spectrum from loosely patterned and thinly symbolic (like conversation) at one end, to highly patterned and densely symbolic (like a Catholic mass or a presidential inauguration) at the other. Human greetings (“Hi, how are you?” “I’m good, you?”) and conversations are ritualized in mundane forms similar to those seen in other animals, while we also engage in behavioral routines that are organized into very complex fixed patterns such as the Mass, which uses formal ritual to evoke a human relationship with the cosmos. Conversations, daily routines, and the Mass can all be productively analyzed as ritual. But to understand why the Catholic Mass is more of a ritual than a conversation is, we must recognize the bases underlying the spectrum of ritual behaviors.

To recap, ritual can usefully be thought of as existing on a spectrum that ranges from simple patterned and repetitive behavior, like habitually getting dressed the same way every morning, to complex patterned and repetitive behaviors, like participation in a Mass. The symbolic meanings attached to and conveyed by the ritual increase toward the complex end of the scale. Yet there is some meaning in every ritualized act. When you get dressed every day, the clothes you choose to wear will reflect your individuality and personality and some of your values (are you wearing pure cotton or polyester?) When you habitually brush and floss your teeth, you are symbolically enacting your personal value on good dental hygiene. Putting on a uniform will symbolically show that you are part of a certain profession and therefore must act a certain way. Exchanging that uniform for regular
clothes symbolizes that you are off-duty and therefore free to act as you like. But there is a great deal more meaning in the Catholic Mass that has taken many pages of written text to fully describe (see, e.g., Murphy 1979). To understand what both simple and complex rituals share in common, as well as what distinguishes them, requires that human ritual behavior be placed in comparative perspective, related to the behaviors of other animals, as we have seen above.

Rituals as Enactments of Beliefs and Values

Again, a ritual is a patterned, repetitive, and symbolic enactment of cultural (or individual) beliefs and values. We place “individual” in parentheses to indicate that most rituals are developed at the level of social groups, but it is also quite common for families and individuals to develop idiosyncratic and personal rituals that have meaning to them, like making an annual pilgrimage, saying daily prayers before a meal or at an altar, or taking your child for a walk by the river every day, complete with peanut butter and jelly sandwiches (thereby enacting the high value you place on the parent-child relationship) (see Sherman and Sherman 1990: 95–100; Feinstein and Krippner 2009). Yet on the whole, and to put it most simply, rituals most often enact cultural beliefs and values, establishing linkages among beliefs, values, and behaviors (see Handelman 1998). Anthropologists figured out this relationship of ritual to beliefs and values a long time ago, and for a century now have been using ritual to gain insights into understanding a given culture or sub-cultural social group. (A “sub-culture” is a group that has social, economic, ethnic, or other traits distinctive enough to distinguish it from others within the same overall culture or society.) If you study their rituals in a search for their meaning, you will arrive at the most important and deeply held beliefs and values of that culture or group.

In most cases, cultural rituals are inherently conservative—in other words, because rituals enact and display a culture's most basic beliefs and values, they also serve as mechanisms for transmitting and thus reinforcing and preserving those beliefs and values. Thus rituals usually work to enhance social cohesion, as their primary purpose in most cases is to align the behavior, values, and belief system of the individual with those of the group. The more a belief system is enacted through ritual, the stronger it is. The less it is enacted, the weaker it becomes. That's why your minister (if you have one) so often exhorts you to come to church every Sunday—and prayer group or Bible study every Wednesday night. If you stop going—if you cease to enact the rituals of your religion—over time your religion will have less and less meaning and significant attachments for you. Now we will...
move on to the specific characteristics that make ritual what it is and provide it with its performative power.

**The Characteristics/Anatomy of Ritual and the Contents of This Book**

Here we present and examine eight major characteristics of ritual that are integral to its myriad roles in human cultural life and central to the way it wields its power. These characteristics constitute what we call an *anatomy of ritual* (see also Grimes 2014). They include:

1. the use of symbols to convey a ritual’s messages;
2. a cognitive matrix (belief system) from which ritual emerges;
3. rhythm, repetition and redundancy: ritual drivers;
4. the use of tools, techniques, and technologies to accomplish ritual’s multiple goals;
5. the framing of ritual performances;
6. the order and formality that often separates ritual from everyday life, identifying it as ritual;
7. the sense of inviolability and inevitability that rituals can generate;
8. the acting, stylization, and staging that often give ritual its elements of high drama, the fact that it is performed and that it often intensifies toward a climax.

Not all rituals exhibit each of these characteristics; however, they are all salient features of ritual in general, all part of the anatomy of ritual and its capacity as a powerful communicative form. Understanding these characteristics of ritual—in other words, deconstructing its anatomy—is essential to understanding how it accomplishes its work in the world. So the early chapters of this book address these eight characteristics and how they work inside the human brain.

Chapter 1, on symbolism and ritual, describes the organization of the human brain and shows how the symbols through which rituals work “penetrate” to different areas of the brain, accomplishing their effects by entraining (synchronizing) physical sensation, emotion, meaning, and intellect. We also describe “core symbols” and how to interpret them, and give some entertaining and illustrative examples of symbolic interpretation, including Darth Vader, an Indigenous ancestor named Naro, and a contemporary debate among midwives over a kettle and what it symbolized for them.

Chapter 2 describes some of the cognitive matrices/belief systems that rituals enact, display, and transmit to their participants, including myths
and paradigms. We use as examples the Navajo origin myth of Changing Woman, dream incubation, and what Robbie calls “the technocratic, humanistic, and holistic paradigms of medicine.” We describe the human cognitive imperative to know and understand the world we live in, the cycle of meaning that cultures develop to meet that cognitive imperative, and the ways in which rituals make that cycle of meaning come alive—feel real—for its participants.

Chapter 3 focuses on the varying relationships of myths, paradigms, and other belief systems to reality and truth, explaining that these belief systems, while only partial pictures of larger realities, serve to “true” those pictures—to make them reflect enough of reality to ensure that the cultures that create and live through them will be able to function effectively in the world. We describe the differences among “sensate,” “idealistic,” and “ideational” cultures and how these different cultural types enact their beliefs and values through ritual, how they may use ritual to accommodate themselves to cultural and environmental change—and how, if they don’t, they may be unable to adapt to such change. The Native American Sun Dance and the US space program provide examples here.

Chapter 4 points out the wide range of rhythmic and repetitive stimuli—called ritual drivers—through which rituals act on the human body and consciousness and analyzes their neurological effects. We describe states and “warps” of consciousness and how information is transferred between them, “monophasic” and “polyphasic” cultures (can you already guess what we mean by these terms?), and how ritual can “drive,” or control, states of consciousness among its participants. We look at “portals” as doorways to alternative states of consciousness, and ask and answer the question, “Why are ritual drivers so compelling?”

Chapter 5 describes some of the many techniques and technologies used in ritual performances that enable ritual to do its work in the world and in the human brain and body. We ask: How do technologies serve as implementations of ritual practice, and how on earth did the ritual diviner find the purloined pots? What is “spooky causation,” and how can ritual serve as a vehicle for “divine inspiration” and “psychic power”? And how, and in what ways, can the ancient technique called “ritual” manifest itself in the contemporary high-tech and virtual worlds?

Chapter 6 illustrates the ways in which ritual is framed—set apart from ordinary life, the order and formality that characterize ritual performances, and the sense of inviolability and inevitability they work to establish. We describe physical and non-physical ritual frames in terms of energy and power, and the meaning, purpose, and power of shrines and altars of all types and kinds. Questions of why order and formality matter so much to the anatomy and effectiveness of ritual are answered through examples from
the Trobriand Islands, the experiences of Bolivian tin miners (which will resonate for miners and factory workers of all types and in all countries), and from contemporary obstetricians, who use ritual in entirely predictable and formalized ways to control the process of birth. And we ask, how can the “ritual train” lead a young woman who really does not want to get married to go through the ceremony anyway? What happens when someone chooses to “break the ritual frame,” purposefully disrupting the ritual? And how does the “ludic” dimension of ritual—play and laughter—manage not to break the ritual frame, but only enhance it, thus making it more powerful?

In this chapter, we also describe the altered state of consciousness called “flow,” making it clear that flow most often happens inside of a clearly delineated ritual frame—*the stronger the ritual, the deeper the sense of flow*—an experience so powerful that some people change their lives in an effort to achieve more of that experience. This chapter also describes how rituals enhance courage, enabling humans to do what they could not do without the sense that the rituals they perform will somehow see them successfully through the dangers they face. Finally, this chapter acknowledges that while rituals do have some degree of power (when believed in by the participants and performed correctly according to the participants), they are not all-powerful and they sometimes—or often—do not work, meaning that they do not accomplish the symbolic and/or instrumental work in the world that they were intended by their leaders and/or participants to do. So, we ask in this chapter, *what happens when rituals fail?*

In subsequent chapters, we focus on the effects that ritual can have on its participants and the multiple roles ritual plays in social and individual life. These include, among others:

- facilitating daily living
- transmitting knowledge
- acquiring information
- transforming individual consciousness
- engendering and solidifying belief
- maintaining religious vitality
- enhancing courage
- effecting healing
- cohering communities
- initiating individuals into new social groups or new ways of being
- preserving the status quo in a given society
- and, paradoxically, effecting social change

These uses of ritual are evident in many domains of social life everywhere. Particularly emphasized in this book are the roles of ritual in the domains of community, business, sports, religion, the military, spirituality movements,
cult conversion, technomedicine, and holistic healing. We have filled each chapter with examples of our points from both traditional and modern societies and from countries all over the world.

In Chapter 7, we integrate our earlier descriptions of the anatomy of ritual into a focus on how ritual is performed—the acting, stylization, and staging that characterize ritual performances, their climactic nature, and the roles that charismatic ritual leaders, from cult leaders to priests to politicians, play in making these performances effective through generating emotional buildup and catharsis and achieving psychological transformation in their participants. No matter what the end goal is, very similar rituals are used to achieve that goal.

In Chapter 8, we investigate “4 Stages of Cognition” and the roles that ritual plays in each Stage. We make a clear distinction between rigid and fluid ways of thinking, delineate the 4 Stages of Cognition, and more or less equate them with their anthropological equivalents. We explain each of these 4 Stages of Cognition in relation to each other, and demonstrate how ritual can be employed to reinforce each way of thinking, and to reduce many kinds of stress by solidly grounding individuals in their belief system and worldview, giving them a sense of safety and stability in an uncertain world, and preventing them from regressing into “Substage”—in other words, from “losing it” and taking out their stress on others.

In Chapter 9, we address ritual’s paradoxical roles: as noted above, ritual can work both to preserve the status quo and to effect social change. We provide examples of ritual failure and ritual success in both endeavors, and discuss various cultural revitalization movements—some of which failed to achieve social change, and some of which succeeded or are in the process of succeeding. We examine the contemporary invention of ritual by holistic obstetricians in Brazil and by Herb Kelleher, the founder of Southwest Airlines, who intentionally created a consciously alternative corporate culture that was long hailed as an exemplar of how to run a successful business.

In Chapter 10, we describe what it is like to design and carry out your own ceremonial rituals, and give examples of how such contrived affairs either work well, or don’t, from memorial ceremonies to weddings to puberty rites and “dream incubation.” And in our Conclusion, we sum up our findings and leave you with room for further thinking about ritual, how it can work in the world and in your brain/body, and how you might use it for the most positive possible effects in your own life.

In the pages that follow, we will stick mostly to standard English, but will ask our readers to bear with us as we introduce (as we have already started doing above) a few anthropological terms, perspectives, and concepts that we find particularly useful for talking about and understanding ritual—what it is, how it works, and why.
Ritual is a complex subject—the anthropological writings on it could fill a library. And as we have seen, its cultural uses are myriad. Ritual is a powerful didactic and socializing tool, but often its power and influence go unrecognized because most people are not generally aware of its inner workings. To grasp these inner workings is to have a choice in our response to the rituals that permeate our daily lives.

**Note**

1. Robbie (Davis-Floyd [1992] 2008, 2018a, 2022) has long defined a *technocracy* as a capitalistic, hierarchical, bureaucratic, and (still) patriarchal society organized around an ideology of progress via the development of ever-higher technologies and the global flow of information through those technologies.