Preface

The objects in a simple room—table, chair, lamp, pen, teapot, teacup, apple, and window—are performing. Although static, they are projecting latent potentials, activities, and relationships. The chair is sized to accommodate a seated human body, and the table is sized to allow the human and the chair to slide underneath it. The teapot and teacup have handles that fingers can wrap around, and the apple is a fruit that a hand can grasp. Some of the interactions are timed. The tea will go cold. The sun will go down, and the lamp will go on. Each of the objects in the assembly offers some properties or capacities that are in interplay.

Culture is very good at pointing to things and calling their name, but not so good at describing the chemistry between things or the repertoires they enact. It is easy to see how a sailor or a meteorologist works within swirling kinetic atmospheres of air or water, but not so easy to see the interactivity between static objects that make up any ordinary surrounding environment. These things with names, shapes, and outlines are usually valued in markets and possessed as property, and they are generally regarded to be inert or inactive rather than dancing with interdependent potentials.

The periodic table charts elements according to their reactivity, volatility, or tendency to generate molecular bonds. But if thousands of years of history are any evidence, culture perceives substances like silver and gold not as entities in an array of potentials, but as objects—lumps of metal to be hoarded and beaten into adornments or currencies in a primitive urge for power. Maybe when encountering most substances, technologies, and practices, the modern Enlightenment mind prefers to pluck them from their active matrix and fix their name and position rather than indulging an imagination about their interdependence.

And yet, while perhaps not foregrounded in many cultural scripts, it is quite common to get through the day by managing potentials. The most resourceful, practical cooks know how to triangulate between the contents of their refrigerator, their pantry, and the food preferences of those for whom they wish to cook. Rather than cooking from a recipe, the mind clicks through hundreds of possible combinations between a half cup of milk that will only last one more day, two eggs, frozen peas, baking soda, cilantro leaves, hot sauce, a half stick of butter, a cheese rind, tomato paste, a tin of sardines, and two bananas. Quantities, expiration dates, cooking times, the mood and hunger of the intended recipient, and thousands of other factors are thrown into the calculations until the cook arrives at a meal that is often mistakenly treated as a relatively simple outcome.

A parent with squabbling children does not attempt to litigate or parse the content of the argument, but rather manages potentials in the environment. They might lower the temperature of the room, move a chair into the light, increase the blood sugar of one child, or introduce a pet into the arms of another so that the chemistry of the room no longer induces or supports violence.

A dog hears a human speak the words “good girl,” but it does not take meaning from the lexical expression alone. The dog also gathers meaning from many other cues and relative positions between things in context: whether the human is holding a leash and their position relative to the door or the dog bowl. Together with the sound of words, the dog assesses all of these potentials.

Similarly, an urbanist, with something like a canine mind, observes the city as a collection of reactive or interdependent components. It is easy to see the choreography of moving parts like cars and pedestrians as they synchronize and intersect. But urbanists look at urban spaces like streets and assess potentials even in the relationships between their static solids. An ethnographer may interview the inhabitants. An economist may gather data about livelihood. But an urbanist observes an interplay of physical contours that are also expressing limits, capacities, and values.

A street with many small lots, many doors and windows, and a heterogeneous mixture of uses possesses a chemistry different from a street with only a few large lots, one entry, and one function. Urbanists may observe the relationship between a traffic light, a business that offers coffee in the morning, and a set of buildings that have inhabitants who care for the

street. And they can see the matrix of exchanges between a subway stop and a giant building with a huge volume of inhabitants. Not morphology alone, but the interaction between components, determines the richness of this loose and changeable assembly of parts. There may be no set structural rules and few determinants—only some dynamic markers of changing relationships.

The chemist, cook, parent, dog, or urbanist is considering the activities and *dispositions* of objects, where "disposition" describes the agency or potential immanent in an arrangement—a property or propensity within a context or relationship. You might assess the disposition of someone's personality over time or the disposition of a house in relation to the weather or landscape, just as you might describe the disposition of an organization. The disposition of any organization makes some things possible and some things impossible. A ball on an inclined plane possesses disposition. Its position and geometry in relation to gravity and the pitch of the plane sets up a potential.[1]

Even though it may seem to be all too obvious, thinking in this way is at once common, often unexpressed, and profoundly underexploited. It requires an inversion of the dominant cultural constructs that are dependent on declaration—labeling or defining the recipe, style, property, or ideology. Favoring nominative or quantitative expressions over expressions of disposition, culture privileges what philosopher Gilbert Ryle called the difference between "knowing that" and "knowing how"—something like the difference between knowing the right answer and exercising experienced reactions unfolding over time.

This book rehearses the faculties of "knowing how." It asks readers to look with half-closed eyes at the world, focusing not only on objects with names, shapes, and outlines, but also on the matrix or medium of activities and latent potentials that those objects generate. It looks beyond object to matrix. It looks beyond nominative expressions to infinitive expressions of activity and interplay. And it looks beyond declared ideologies to undeclared dispositions—beyond the authority of economic or political labels that often obscure or misrepresent latent potentials in organizations of all kinds.

A focus on medium over object is ever present in many disciplines. The oncologist follows not only the tumor but also the chemical fluctuations in surrounding tissues. The geologist does not merely taxonomize specimens

but rather reads them as traces of a process. The physicist sees all of matter as existing only through ongoing entangled relationships.[2] The actor in the theater transmits information not only through words but also through interdependent actions. Even media theorists are returning to elemental understandings of media as surrounding environments of air, water, earth, or fire.

To further jostle the lexical, quantitative, or ideological expressions on which "knowing that" relies, this book models ideas in lumpy, heavy, physical space. By looking at space as a medium, it is in dialogue with all those—media theorists among them—who are returning to the Latin root of the word "medium," *medius*. Not bound by associations with communication technologies, "medium" in this context means middle, or milieu.

This spatial language is not just for specialists but rather for a broad audience of thinkers. Space is an inclusive mixing chamber—an especially potent carrier of overlapping political, financial, and environmental ecologies that graphically model some of the world's most intractable dilemmas. Culture may give more governing authority to the newest technologies or to legal or economic abstractions, but space possesses information, value, and potential beyond financial or geometric assessments, and it is itself a technology of innovation. Space is also a carrier of polity—dispositions and temperaments that can elude or enhance the declarations of political platforms.

Perhaps most important, this book exercises faculties for not only observing this space but also changing or designing it. Designers are already renovating an approach to form itself to address emergent global urban spaces and organizations. They are using forms for designing not only things but the *interplay* between things—active forms that enact change in urban spaces, larger territories, and even planetary atmospheres.

Speaking to any reader in any discipline as a designer, the discussion treats design in space as a form of activism with special powers. Just as a contemplation of medium inverts the customary focus on object over field or figure over ground, this *medium design* may prompt practical inventions and paradigm shifts that fundamentally alter approaches to all kinds of political and environmental dilemmas.