CHAPTER ONE

INTRODUCTION TO TOPOLOGICAL PHENOMENOLOGY

In attempting to bring the lifeworld to life, my primary tool will be *topology.* This is the study of *topos,* a Greek word for "place." The lifeworld is clearly no empty space but possesses something of the quality of a *place.* The distinction between these two terms is instructive. "Space" is defined as "distance extending without limit in all directions . . . a boundless, continuous expanse . . . within which all material things are contained."[1] In his etymological study, Partridge relates "space" (from the Latin, *spatium*) to "*patere,* to lie open . . . wide-open, large" (1958, 644). "Place," on the other hand, has a more concrete meaning. Among other definitions, it is a "particular area or locality"; a "residence" or "dwelling"; a "particular . . . part of the body"; "the part of space occupied by a person or thing."[2] In keeping with the concreteness of *topos,* Sheets-Johnstone is able to demonstrate that, whereas the Euclidean study of space involves practices that are largely disembodied, "topology . . . is rooted in the body" (1990, 42). Topology, then, will be the discipline I will employ in exploring the embodied lifeworld.

But this is not a book about topology per se. Accordingly, I will make no attempt to provide a comprehensive account of the various applications of topology in various fields at various times. Yet the topological work undertaken in this volume should be better appreciated if placed in the context of other broad approaches to topology, and related to the overall history of the field.

Despite my intention of using topology to probe the concrete lifeworld, this area of inquiry is conventionally regarded as a branch of the most abstract of abstract sciences: mathematics. Here topology is generally defined as "the study of those properties of geometric figures that remain unchanged even when under distortion, so long as no surfaces are torn."[3] Let us briefly consider the history of this discipline.

1. MODERN TOPOLOGY IN HISTORICAL PERSPECTIVE

For two thousand years, Euclidean assumptions about the nature of space had gone largely unchallenged. Then, in the early nineteenth century, doubts were raised about Euclid's parallel postulate. From this there arose non-Euclidean systems, such as the hyperbolic and elliptic geometries. In the course of the nineteenth century, the Euclidean approach was further surpassed through the development of projective geometry, and, beyond that, the highly general study of topology was inaugurated.

The generality of a geometry can be understood in terms of the range of transformations it permits. In Euclidean geometry, a figure such as a circle can be transformed by moving it from one location to another, but the transformation must be "rigid"; that is, for the postulates of Euclid to hold up, the metrical properties of the circle cannot be disrupted by stretching or distorting the figure. Projective geometry is somewhat less restrictive. Here metrical relations can be changed to a limited extent; the circle, for example, can be transformed into an ellipse. However, with projective geometry, we could not go so far as to transform the circle arbitrarily into any shape we wished. For that we require topology. Topological transformations can be performed without regard to the size or shape of the mathematical object being changed as long as the object retains its continuity. In popular accounts of topology, the great flexibility of this "rubber sheet" geometry is often demonstrated via the example of changing a doughnut into a coffee cup. Despite the concrete differences between real-world doughnuts and coffee cups, their topological counterparts—abstractly taken as but continuous surfaces with single holes—are regarded to be the "same" object. This illustrates the key point for our purposes: that, historically, topology has primarily served as a tool of mathematical abstraction.

Now, modern mathematics is a prime example of the twentieth-century cultural movement known as *modernism*. It is modernism that we find at the "end of philosophy" (see preface). Ambitious and totalizing, imbued with the spirit of science, this movement aspires to gain complete objective knowledge of nature by means of abstract analysis, and, on this basis, to bring nature under cognitive human control. Beyond mathematics and the natural sciences, the impact of modernism has been felt in the social sciences, the arts and humanities, and the popular culture at large. While mainstream topology is surely a modernist enterprise, my use of this discipline as a means of reanimating the lifeworld clearly cannot be.

If the influence of modernism was on the rise in the first half of the twentieth century, it leveled off in the second, and modernism began to be questioned.[4] Around this time, uncertainty was burgeoning in a number of scientific disciplines—a development led by modern physics, "our culture's paradigm for all knowledge" (de Quincey 2002, 54). Mathematics was no exception. Its completeness and consistency had been fundamentally challenged by Gödel's theorem, and its foundations were shaken by deep conflicts among its several schools (formalism, logicism, intuitionism, etc.). The mathematician Morris Kline provides a telling account of the situation, summed up succinctly in the title of his book: *Mathematics: The Loss of Certainty* (1980).

Today, at the outset of the twenty-first century, the challenge to modernism continues. In the humanities and human sciences, certain novel applications of topology reflect the postmodern tenor of the times. In this regard, the neo-Freudian psychoanalytic theorist Jacques Lacan was a transitional figure.

Undoubtedly, Freud himself was a modernist, seeking as he did to achieve an objective scientific grasp of the human psyche. Was Lacan also a modernist? The Marxist theorist Louis Althusser conveys this impression in his claim that the effect of Lacan's work is to "give Freud's discovery its measure in theoretical concepts by defining as rigorously as is possible today the unconscious and its 'laws,' its whole object" (1969, 204). Lacan indeed turned to the science of linguistics, seemingly in order to put psychoanalysis on a more rigorous footing. Noting Freud's emphasis on the importance of language in the functioning of the unconscious (as evidenced, for example, in the wordplay often prevalent in dreams), Lacan contended that the unconscious does not merely *make use* of language; rather, it is a language unto itself. Since "the unconscious is structured as a language" (1966/1970, 188), could it not be precisely formulated in terms of the relationships between signifiers (graphic marks) and the meanings they signify? Lacan apparently attempted just such a formulation in his article, "The Function of Language in Psychoanalysis" (1968).

Moreover, Lacan seemed not content to stop with a merely linguistic clarification of psychoanalysis. In an ostensive effort to achieve an even higher level of precision, he appealed to that modernist discipline par excellence, mathematics. The signifying process that constituted the unconscious discourse of the human subject was to be spelled out "definitively" via the use of topology. To this end, Lacan presented a diagram of a Moebius strip:

> The diagram can be considered the basis of a sort of essential inscription at the origin, in the knot which constitutes the subject. This goes much further than you might think at first, because you can search for the sort of surface able to receive such inscriptions. You can perhaps see that the sphere, that old symbol for totality, is unsuitable. A torus, a Klein bottle, a cross-cut surface, are able to receive such a cut. And this diversity is very important as it explains many things about the structure of mental disease. If one can symbolize the subject by this fundamental cut, in the same way one can show that a cut on a torus corresponds to the neurotic subject, and on a cross-cut surface to another sort of mental disease. (1966/1970, 192–93)

The foregoing passage is cited by the physicists Alan Sokal and Jean Bricmont (1999) in their scathing critique of Lacan's use of topology, and his handling of mathematics in general. Taking it for granted that Lacan indeed had aspired to "mathematize" psychoanalysis, the authors begin by declaring that "We shall not enter . . . into the debate concerning the purely psychoanalytic part of Lacan's work. Rather, we shall limit ourselves to an analysis of his frequent references to mathematics" (18). Sokal and Bricmont then proceed to demonstrate in detail Lacan's many "misuses" and "abuses" of mathematical ideas. It must be said that Lacan left himself open to such criticism. It does appear, at least on the surface, that he sought to employ mathematics for the purpose of clarifying the unconscious and defining it with greater exactitude. As far as I know, he never explicitly questioned mathematics per se. Apparently, then, Lacan was playing a modernist game and therefore was subject to its rules, which means that any absence of clarity should count against him. But let us consider what he actually said about the language of the unconscious, and what this indicates for the topological language he purportedly used to "clarify" it.

In a key lecture published in *The Languages of Criticism and the Sciences of Man* (1966/1970), Lacan says: "The unconscious has nothing to do with instinct or primitive knowledge or preparation of thought in some underground. It is a thinking with words, with thoughts that escape your vigilance, your state of watchfulness" (189). Language essentially involves repetition. "The unconscious subject" engaged in this linguistic process "is something that tends to repeat itself" (191). Only by repeating itself, by replicating its act of signification, can the subject hope to affirm its existence. But this repetition is never a repetition of what is the same: "in its essence repetition as repetition of the symbolical sameness is impossible" (192). Consequently, the decentering of the subject is unavoidable. In reproducing itself, the subject alienates itself and this "necessitates the 'fading,' the obliteration, of the first foundation of the subject, which is why the subject, by status, is always presented as a divided essence" (192).

For Lacan, language in general "is constituted by a set of signifiers. . . . The definition of this collection of signifiers is that they constitute what I call the Other" (193). The "sphere of language" is thus comprised of an "otherness":

> All that is language is lent from this otherness and this is why the subject is always a fading thing that runs under the chain of signifiers. For the definition of a signifier is that it represents a subject not for another subject but for another signifier. This is the only definition possible of the signifier as different from the sign. The sign is something that represents something for somebody, but the signifier is something that represents a subject for another signifier. The consequence is that the subject disappears. (1966/1970, 194)

In other words, with Lacan's post-structuralist approach to language, the sign—which had constituted for the structuralist a fixed relationship between a signifier and its signified meaning—now dissolves into an evanescent flux of differences wherein the subject loses its substance, becoming ghostlike and ephemeral. In its repetition, the subject surely *desires* to substantiate itself, but its signification diverges, leading only to further signification in a never-ending series of displacements and slippages. Here, in the open-ended play of language, identity gives way to difference and solidity evaporates. How, then, can we have clear-cut definitions, equations, proofs, or any of the other positivistic appurtenances of modernist mathematics?

It is in this decidedly *post*modern (post-structuralist) context that Lacan makes use of topology. Contrasting the Moebius strip with the sphere ("that old symbol for totality"), he employs the Moebius signifier not to establish mathematical identity but to illustrate the spontaneous emergence of *difference:* whereas movement upon a sphere keeps us on the same side of the surface, movement on the Moebius diverges, carrying us over to the *other* side (I will clarify the properties of this paradoxical structure in subsequent chapters). Lacan was indeed speaking the language of the unconscious, where—as Freud well knew—wit (*witz*) plays an essential role. I suggest that, at bottom, Lacan's use of topology involved something of a *joke,* since it demonstrated "precisely" the inescapable *imprecision* of language. Sokal and Bricmont evidently did not get the humor. Perhaps these exemplars of modernist culture can be likened to poorly trained linguistic anthropologists who fail to gather a sufficient corpus from the "alien culture" they are seeking to investigate. Rather than dealing with the whole body of Lacan's work, Sokal and Bricmont declare at the outset that they "shall limit [themselves] to an analysis of [Lacan's] frequent references to mathematics." In thus extracting Lacan's work from its postmodern context to suit their own purposes, they can see it only through modernist eyes and consequently miss its playful nature.

One wonders, however, whether Lacan himself fully appreciated the joke. If he was only telling a joke, he certainly told it with a serious face. In the final decade of his career, he became more and more obsessed with topological abstraction to the point where his attempts at "mathematizing" psychoanalysis were beginning to alienate many of his own followers. Yet he persisted in a manner that seemed hardly consistent with one who is simply jesting. Perhaps he was engaged in what Sartre termed "self-deception" (1943/1975, 299ff.). That is, at times when Lacan was focusing on the positivity of mathematics, he was aware of the negative, post-structuralist side, but only peripherally, in a way that allowed him to dismiss it. If the negative were either completely opaque or wholly transparent to him, there would be no self-deception; in the former case, he simply could not lie about the negation of mathematical certainty, whereas, in the latter, he could at least not lie to *himself*. The game of self-deception depends on the "translucency" (Sartre, 302) of the member of the dyad upon which one is not focusing. At the very moment that Lacan is proclaiming the mathematical rigor of his "topological psychoanalysis" (as Sokal and Bricmont refer to it), the ephemerality of this "rigor" is diffusely filtering through to him. But, in order to banish ambiguity on those occasions, he chooses to blind himself to it.

It is difficult to determine whether Lacan was involved in such self-deception, whether he was dead serious about mathematics, or was simply jesting. If he *was* joking in his quasi-mathematical application of topology, the joke appears to become more obvious in the post-mathematical applications of topology evident today. In the writings of Michel Serres, Gilles Deleuze and Félix Guattari, Brian Massumi, Stephen Perrella, and others, "mathematics" appears to be employed in such a manner that the old foundations of mathematics are swept away. But we are going to see that the joke in fact may have another turn. As a first step in assessing the challenge of postmodern topology, let us digress to examine what is perhaps the core tenet of its modernist predecessor, a principle whose philosophical roots can be traced back to Plato.

2. CORE ASSUMPTIONS OF MODERNIST TOPOLOGY

In the *Timaeus,* Plato states that "we must make a threefold distinction and think of that which becomes, that in which it becomes, and the model which it resembles" (1965, 69). The first term refers to any particular object that is discernible through the senses. The "model" for the transitory object is the "eternal object," i.e., the changeless form or archetype. This perfect form is *eidos,* a rational idea or ordering principle in the mind of the Demiurge. Using his archetypal thoughts as his blueprints, the Divine Creator fashions an orderly world of particular objects and events. As for "that *in* which [an object] becomes," Plato speaks of the "receptacle," describing it as "invisible and formless, all-embracing" (70). It is the vessel used by the Demiurge to *contain* the changing forms without itself changing (69). Plato goes on to characterize the receptacle as *space* (71–72).

Note, however, that while the receptacle was *supposed* to contain change without itself changing, it actually did not function with perfect efficiency, as Plato himself admitted. Being subject to "fleeting potencies and constantly changing tensions" (Graves 1971, 71), the receptacle was given to porosity; at any time, it could "spring a leak." In other words, the inhomogeneity of Platonic space made it susceptible to being ruptured, to losing its continuity. Not until centuries later, with the philosophy of Descartes, was the idea of spatial continuity brought to fruition.

Descartes related the continuum to the concept of *extension*. Consider, as an illustration, the simplified space represented by a line segment. In the Cartesian approach, it is intuitively self-evident that the line, however short, has extension. It must then be continuous: it can possess no holes or gaps in it, since, if the point-elements composing it were not densely packed, we would not have a line at all but only a collection of extensionless points. The quality of being extended implies the infinite density of the constituent point-elements.

Yet, at the same time, intuitive reflection discloses the paradox that the absence of gaps in the continuum not only holds this classical space together but also permits it to be *indefinitely divided*. Without a gap in the line to interrupt the process, there is no obstacle to the endless partitioning of it into smaller and smaller segments. As a consequence, though the points constituting this continuum indeed are densely packed, they are distinctly set apart from one another. However closely positioned any two points may be, a differentiating boundary permitting further division of the line always exists. As Milič Čapek put it in his critique of the classical notion of space, "no matter how minute a spatial interval may be, it must always be an *interval* separating two points, each of which is *external* to the other" (1961, 19).

The infinite divisibility of the extensive continuum also implies that its constituent elements themselves are unextended. Consequently, the point-elements of the line can have no internal properties, no structure of their own. An element can have no boundary that would separate an interior region of it from what would lie on the outside; *all* must be "on the outside," as it were. In other words, the Cartesian line consists, not of internally substantial, concretely bounded entities, but only of abstract boundedness as such (Rosen 1994, 92). Sheer externality alone holds sway—what Heidegger called the "'outside-of-one-another' of the multiplicity of points" (1927/1962, 481). Moreover, whereas the point-elements of classical space are utterly unextended, when space is taken as a whole, its extension is unlimited, infinite. Although I have used a finite line segment for illustrative purposes, the line, considered as a dimension unto itself, actually would not be bounded in this way. Rather than its extension being terminated after reaching some arbitrary point, in principle, the line would continue indefinitely. This means that the sheer boundedness of the line is evidenced not only locally in respect to the infinitude of boundaries present within its smallest segment; we see it also in the line as a whole inasmuch as its infinite boundedness would be infinitely extended. Of course, this understanding of space is not limited to the line. Classically conceived, a space of any dimension is an infinitely bounded, infinitely extended continuum.

Naturally, it would be a category mistake to interpret the infinitude of classical space as a characteristic of what is *object.* Space is not an object but is the "receptacle" of the objects, the changeless context within which objects are manifested. This distinction, initially made by Plato, is reflected in the thinking of Kant, who held that perceptions of particular objects and events are contingent, always given to variation, but that perceptual awareness is organized in terms of an immutable intuition of space. In the words of B. A. G. Fuller and Sterling McMurrin, Kant took the position that "no matter what our sense-experience was like, it would necessarily be smeared over *space* and drawn out in *time*"[5] (1957, part 2, 220). Implied here is the categorial separation of *what* we observe—the circumscribed objects—from the *medium* through which we make our observations. We observe objects *by means of* space; we do not observe space. It is within the infinite boundedness of space that particular boundaries are formed, boundaries that enclose what is concrete and substantial. The concreteness of what appears within boundaries is the particularity of the object. In short, an object most essentially is that which is bound*ed,* whereas space is the contextual bounded*ness* that enables the finite object to appear.

The spatial context is what mediates between object and *subject.* The latter (personified by the Demiurge in the *Timaeus*) is the third term of the classical account and corresponds to what is *un*bounded. That an object possesses boundaries speaks to Descartes' characterization of it as *res extensa,* "an extended thing": what has extension will be bounded. In contrast, the subject is *res cogitans,* a "thinking thing." Entirely without extension in space, the subject has no boundaries or parts. As a consequence, it is indivisible (etymologically, this is equivalent to stating that the subject is an *individual*).

The crux of classical cognition, then, the axiomatic base serving as its unquestioned point of departure, is the self-evident intuition of *object-in-space-before-subject.* The object is *what* is experienced, the subject is the transcendent perspective *from* which the experience is had, and space is the continuous medium *through* which the experience occurs. The relationship among these three terms is that of categorial separation.

The classical formula is built into modern mathematics at a fundamental level. It is true that *topological* mathematics has great flexibility compared with geometric disciplines such as the Euclidean and projective geometries. In "rubber sheet" geometry, we can turn doughnuts into coffee cups with impunity. Yet however we may turn, twist, or deform a topological object to vary its concrete appearance, from the perspective of the mathematical analyst, the object will "look the same." That is, the doughnut and coffee cup, when regarded abstractly as continuous surfaces with single holes, are entirely equivalent (as noted above). Of course, the subject's conferral of abstract unity upon the varying appearances of the object is mediated by the third term in the classical formula, viz. the analytical space or continuum that contains the topological transformations without itself being transformed.

3. POST-LACANIAN APPLICATIONS OF TOPOLOGY

It is the old philosophical formula grounding modernist mathematics that appears to be challenged in Lacan's postmodern use of topology. The Lacanian Moebius strip is no well-defined topological object but a signifier whose radical divergence from mathematical identity seems to disrupt the whole relation of object-in-space-before-subject ("the subject disappears," says Lacan; 1966/1970, 194). At least as subversive are the post-Lacanian applications of topology mentioned above at the end of section 1. In these works, the fluid deformations of objects that conventional mathematics had contained in its analytical space now overspill their borders and are brought to bear on space itself. Michel Serres, for example, concretizes space, brings it down into the material realm where it becomes "pliable, tearable, stretchable . . . topological" (Serres 1994, 45). Space is presently "a mobile confluence of fluxes" (Serres and Latour 1995, 122) rather than a static container and is thus made susceptible to the topological vagaries and vicissitudes of history. Serres reaches similar conclusions about *time*. Consider Steven Connor's assessment of Serres on this count:

> In the foldings and refoldings of the fabric of time, the idea of an invariant surface on which the folding might be taking place, or of the clock which would tick off the time which elapses while it takes place are mere fictions. The truth yielded by the topological apprehension of time is that there is no such invariant background. . . . Serres sees the river [of time] running chaotically through a landscape that itself forms as it moves. (2002)

Perhaps the most influential figures in post-mathematical topology are the cultural theorists Gilles Deleuze and Félix Guattari. In their magnum opus, *A Thousand Plateaus* (1987), Deleuze and Guattari begin by implicitly contrasting their own approach with the totalizing tendencies of classical thought: "All *we* talk about are multiplicities, strata and segmentarities, lines of flight and intensities, machinic assemblages and their various types" (4; italics added). These diversities and divergences are ceaselessly at play as flows on surfaces, on planes without depth, and are all-pervasive in nature and culture. Deleuze and Guattari warn us not to look for any fixed meaning beneath, behind, or within this restless profusion of activity; as they see it, we can only describe how it functions, how patterns form, deform, and capriciously dissolve. Giving their own book as an example of such machinations, they say, "A book exists only through the outside and on the outside. A book itself is a little machine" (4).

The authors caution us against the subtle persistence of the impulse toward stasis and totalization, particularly as manifested in modernism. James Joyce, for instance, shatters the old linear unity of the word only to "posit a cyclic unity of the sentence, text, or knowledge." Friedrich Nietzsche demolishes "the linear unity of knowledge, only to invoke the cyclic unity of the eternal return." In these examples, "unity is consistently thwarted and obstructed in the object, while a new type of unity triumphs in the subject . . . a higher unity . . . in an always supplementary dimension to that of its object" (1987, 6). "In truth," declare Deleuze and Guattari, "it is not enough to say, 'Long live the multiple,' difficult as it is to raise that cry. . . . The multiple *must be made,* not by always adding a higher dimension, but rather in the simplest of ways . . . with the number of dimensions one already has available—always $n - 1$ (the only way the one belongs to the multiple: always subtracted). Subtract the unique from the multiplicity to be constituted; write at $n - 1$ dimensions" (6). Toward the end of their book, Deleuze and Guattari call for a "topology of multiplicities" (483).

Brian Massumi, the translator of *A Thousand Plateaus,* closely aligns himself with the authors and carries their work forward in his online essay, "Strange Horizon" (1998). What is primary for Massumi is movement, flux—the twistings, turnings, and undulations by which we continually renew and transmute ourselves. "The space of experience is . . . a topological hyperspace of transformation," says Massumi, and living topologically entails "newness . . . the emergence of unforeseen experiential form and configuration, inflected by chance. . . . The [lived] body is . . . always provisional because always in becoming." Classically, space and time appear as independent variables that contain and constrain change. Massumi contrasts this with the topological view in which "space and time are dependent variables." Rather than being governed by "logics of presence or position that box things in three-dimensional space strung out along a time line . . . logics of transition are needed: qualitative topologics." Massumi concludes that "the life of the body, its lived experience . . . cannot be contained in Euclidean space and linear time. They must be topologically described." Here, "Formal topologies are not enough." We require "ontogenetic" topologies that express the "continuing becoming" of experience. Massumi emphasizes that there is no "one topological figure, or even a specific formal non-Euclidean geometry, that corresponds to the body's space-time of experience or some general 'shape' of existence. Topologies . . . are modeling tools." To Massumi, dynamic topology is no mere metaphor for lived experience; instead it is a "biogram" that is literally interwoven with that experience. "If there is a metaphor at play," says the author, it is "rather mathematical representation that is the metaphor" (1998).

In a similar post-mathematical vein, architectural theorist Stephen Perrella introduces the topological notion of the *hypersurface:*

> In [conventional] mathematics, a hypersurface is a surface in hyperspace, but in the [present] context . . . the mathematical term is existentialised. . . . This reprogramming is motivated by cultural forces that have the effect of superposing existential sensibilities onto mathematical and material conditions, [as especially seen in] the recent topological explorations of architectural form. The proper mathematical meaning of the term hypersurface is . . . challenged by an inherently subversive dynamic. (n.d.)

Perrella explains that, "Instead of meaning higher in an abstract sense, 'hyper' means altered. . . . In an existential context, hyper might be understood as arising from a lived-world conflict as it mutates the normative dimensions of three-space" (n.d.). The author notes that

> the dominance of the mathematical model is becoming contaminated because the abstract realm can no longer be maintained in isolation. The defection of the meaning of hypersurface, as it shifts to a more cultural/existential sense, entails a reworking of mathematics. . . . This defection is a deconstruction of a symbolic realm into a lived one. . . . If [mathematical] ideals, as they are held in a linguistic realm, can no longer support or sustain their purity and dissociation, then such terms and meanings begin, in effect, to "fall from the sky." . . . Topological "space" differs from Cartesian space in that it imbricates temporal events within form. Space then, is no longer a vacuum within which . . . objects are contained, space is instead transformed into an interconnected, dense web of particularities and singularities . . . a material/immaterial flux of actual discourse. (n.d.)

Generally speaking, the new initiatives in topology pose a significant challenge to the order of abstract thinking that has constrained us for centuries. In so doing, they help pave the way for revitalizing the lifeworld. But let me now consider a misgiving I have about this postmodern approach.

4. FROM POSTMODERN TOPOLOGY TO TOPOLOGICAL PHENOMENOLOGY

Post-mathematical topology rightly questions the peremptory divisions so prevalent in the classical and modernist viewpoints. Deleuze and Guattari's notion of flowing intensities, for example, seeks to transgress the rigid boundaries of substantival thought in an attempt to offer a dynamic account of life process. In this regard, feminist theorist Elizabeth Grosz applauds Deleuze and Guattari's reconception of "bodies outside the binary oppositions imposed on the body by the mind/body, nature/culture, subject/object and interior/exterior oppositions" (1994, 164). Nevertheless, while Deleuze and Guattari apparently engage in a "global rejection of binary oppositions"[6] at one level of their discourse, in fact they wind up tacitly maintaining opposition on another, less explicit level. Here the fundamental oppositions of identity and difference, being and becoming, unity and multiplicity, are upheld. For, in each case, Deleuze and Guattari negate the first member of the pair and come down decisively on the side of the second ("subtract the unique from the multiplicity," they urge). The unambiguous negation of one term and affirmation of the other in the content of their assertions reinforces the binary splitting of terms at the implicit level of linguistic form. Evidently, when it comes to such basic oppositions, ambiguity is not something that can consistently be tolerated.

The same kind of "meta-dualism" is indicated in the writings of Brian Massumi. Although he beautifully demonstrates the need to reconceive lifeworld experience via a "strange one-sided topology" that surpasses the old dichotomies by working at a "paradoxically creative edge" (1998), Massumi seems to lose *his* edge at the meta-level. Here movement is unambiguously favored over stasis, matter over mind, difference over identity, becoming over being, the many over the one. Elizabeth Grosz shows a similar inclination. After effectively illustrating how we can surpass mind-body dualism by using the Moebius strip to express "the inflection of mind into body and body into mind" (1994, xii), she winds up privileging "the fields of difference, the trajectories of becoming" (210) over identity and being (in the Platonic heritage, becoming is associated with the multiplicity of the body and being with the unity of the mind). Such one-sided reactions to the totalizing tendencies of modernism seem to be a defining characteristic of postmodern thought in general. The "one-sidedness" in question certainly is not of the Moebius kind. Rather than genuinely challenging the old "purity and dissociation" (Perrella n.d.) of modernist philosophy by consistently applying topological paradox to the most basic philosophical dichotomies, postmodernism tends to slip into a sort of "*reverse* purism." Pure being is replaced by a mode of becoming that is every bit as pure. The world is no abstract unity, we are told; instead it is "sheer multiplicity." Yet, in either case, the world *is;* it is predicated (positively or negatively) in unambiguous terms, set off by an exterior (non-paradoxical) boundary, rendered a well-defined object in the analyst's space of discourse, one from which the post-mathematical subject stands aloof. At this level of analysis, the old formula of object-in-space-before-subject prevails and nary a "Moebius edge" can be found. It is true that, in terms of its *content,* the object is no longer a fixed thing, but is an "ever-changing multiplicity." Yet, in the subtler sphere of linguistic form, we do have an *object,* something that is non-topologically segregated from its binary opposite, viz. "changeless unity." Like all objects, the objects in question are well contained within the linguistic continuum serving as the subject's means of analysis. We can see here the operation of a dialectic in which postmodernism's propensity simply to negate the earlier tradition in fact tacitly maintains it *because* the method of simple negation is being employed. And it is in covertly preserving the old ontological formula that true access to the lifeworld continues to be barred.

Perhaps you recognize the "Chinese finger puzzle" at play in the postmodern struggle to break free from classical and modernist restraints. As I noted in the preface, all efforts to free ourselves from the abstraction of modernity by simply opposing it leave us squarely within it, since the sine qua non of abstraction is simple opposition. But I also intimated that, while abstraction has no exit, no exterior boundary, it may indeed possess an *interior* horizon, a paradoxical threshold at its innermost depths that leads beyond it. We can now better appreciate that the boundary in question is Moebius-like. In fairness to thinkers like Grosz and Massumi, they do make effective use of such a "strange one-sided topology" (Massumi 1998). What I am suggesting is that the application needs to be implemented in a consistent and thoroughgoing manner, with every effort being made not to lose one's "topological edge." From my own experience, I know all too well how difficult this is to achieve, and it would not surprise me to learn that there are places in this very text in which I myself lose my edge. As a dweller in a glass house, I must be careful, then, about the stones I hurl. We are all challenged to avoid limiting our applications of topological paradox to the surface of our discourse while allowing our deepest assumptions and forms of expression to remain tacitly governed by the old trichotomous formula (object-in-space-before-subject). To prepare ourselves for re-inhabiting the lifeworld, we must keep our topological edge "all the way down." Differently put, the expression of topological paradox must become *ontological,* lest the *old* ontological outlook continue its domination from below. Let us explore what this means.

It is through paradox that one challenges the traditional formula. Rather than saying, "X is" or "X is not," one says, "X is not-X." This is no mere affirmation or denial of a predicated content, but predication's denial of itself. In asserting that "X is not-X," the customary subject/predicate format *is* being used ("X" is the subject, "is not-X" is the predicate), but in a manner whereby the content that this sentence expresses calls the form into question. The paradoxical statement amounts to a declaration that the syntactical boundary condition that would delimit X cannot effectively do so. Simple predicative boundary assignment is thwarted, so that even though X implicitly is being posited as distinct from that which is external to it, at the same time it is inseparable from it. The statement "X is not-X" boggles our minds because the human mind is a reflective organ whose principal function is to draw clear-cut boundaries. Nevertheless, if we are to fully appreciate what is required for reentering the lifeworld, we must distinguish two orders of paradox.

Consider a commonly cited example of a paradoxical statement: "Everything I say is false." Evidently, this assertion is true if it is false, and false if it is true! Applying the general formula for paradox, X = not-X, to the particular case, the term X stands for the truthfulness of the assertion (it is both true and false). Following Heidegger (1927/1962, 31), we may call this order of paradox *ontical:* its key characteristic is that its opposing terms ("truth" and "falsity") are particular objects of thought, entities already projected before the subjectivity of the thinker. While the well-known "liar's paradox" certainly subverts the boundary between these objects, it "comes too late" to directly affect what Heidegger would call the *ontological* boundary, the division prereflectively established between the object(s) that are reflected upon and the existential subject that does the reflecting. It is this latter division that lies at the root of predication. Therefore, to confound predicative boundary-drawing in the most radical way, paradox must be taken beyond the merely ontical level and expressed more primordially; it must be brought to bear on the bounding of subject and object that "precedes" any mere division among particular objects. Thus, in saying "X is not-X," one must mean, "*I am not-I,*" with "I" taken as ontological: not just a *particular* (i.e., objectified) subject, a specifiable individual with a personal history and personal characteristics, a given ontical being. Rather than being some object of reflection, the "I" in the formula for paradox must be the prereflectively established subject that reflects.

Of course, the instant we install the prereflectively chosen "I" in the formula, it passes over into the domain of the *reflected upon,* itself becoming but an object now cast before a newly established subject not included in the formula. In thus formulating ontological paradox, the paradox becomes ontical. From this it should be clear that the rule of predication will not be radically challenged by the mere *formulation* of paradox. To write and think "I am not-I" in the usual manner of writing and thinking is to continue to predicate. Not that reflective predication would simply be suspended in realizing ontological paradox. The "I" or thinking subject would indeed still be reflecting upon itself, and, by virtue of the fact that it *was* reflecting, it would be making itself into an other, a "not-I." And yet, it would be doing this without *just* abstracting itself, without turning itself into *merely* what is other, thus cutting itself off from its prereflective roots. In realizing ontological paradox, the "I" would continue in the reflective posture, standing outside itself; but, at the same time, it also would be standing *within.* The philosopher Eugene Gendlin intimated the possibility of such a curious stance. In his essay "Words Can Say How They Work" (1993), Gendlin (expanding upon Heidegger's [1927/1962] notion of *Befindlichkeit* or "moody understanding") suggested that our words originate from a prereflective bodily source that continues to operate in the midst of our speaking, so that, at least in principle, we can both speak reflectively *about* this source and directly engage it. I propose that it is by bringing together the reflective and prereflective that the way is paved for re-inhabiting the lifeworld.

Nevertheless, old habits are slow to die. It is the reflective mode of consciousness that has long been dominant. Therefore, although the abstract words written on this page may be rooted in a prereflective source that continues to operate even as we read, it is abstraction that prevails. We may *reflect* on our concrete prereflectivity and its paradoxical relation to the reflective, yet we find it difficult vividly to feel its living presence at work in our midst.

This is where topology enters the picture. We are seeing that ontological paradox must be *embodied* (Rosen 1997), that the "I am not-I" must be fleshed out, made into a concrete reality. Topology is an indispensable tool in this regard. As I noted previously, "topology . . . is rooted in the body" (Sheets-Johnstone 1990, 42); "no matter how abstract it may become," asserts Steven Connor, "topology remains fundamentally bodily" (2002). That is why it is so helpful when Grosz expresses the relationship between subject and object in topological terms, and when Massumi speaks of "experience [being] doubled back on itself like a Möbius strip" (1998). What I am emphasizing for my part is that topological paradox must retain its edge all the way down into the ontological roots of our discourse. It would therefore not suffice for me to topologize the subject-object relation in the content of my writing while maintaining a nontopological posture in the underlying manner in which I express this content. In so limiting myself merely to *predicating* the topological linkage of subject and object, I fail to make ontological paradox a concrete reality. Such predication of the subject-object coupling in fact turns the copula into an *object,* an ontical content, from which I—this predicating subject—am decoupled. The concrete realization of ontological paradox thus requires that she who predicates makes her own presence felt topologically, rather than receding into an anonymity that serves to reinforce the old ontological posture. As Massumi puts it, "How can the literate become literal and the literal literate, in two-way, creative interference? Most of all, how can this [topological] looping be accomplished openly and without . . . the imposition of an authorial 'voice' or 'vision' aimed at grounding a sea-tossed world?" (1998). I take this as another way of asking, How can we employ topology to reanimate the lifeworld in practice, not just in theory? In subsequent chapters, no question is more critical than this, nor is any more difficult to address.

The application of topology to ontological paradox is what I mean by *topological phenomenology.* But doesn't phenomenology constitute a "closed loop of 'intentionality'"? Isn't "every phenomenological event . . . like returning home . . . without the portent of the new"? With these words, Massumi (1998) rejects the phenomenological approach. For Massumi, phenomenology is a "domesticating, self-satisfied subjectivism" that shuns the newness of becoming and takes refuge in the closed circle of being. I entirely agree that if we wish to participate in the vitality of the lifeworld, we cannot privilege being over becoming. Yet we have found that privileging becoming has the same effect: it implicitly bolsters the traditional ontological posture wherein the lifeworld is eclipsed. Therefore, rather than falling into a one-sided espousal of either being or becoming, we must stay in the dialectical saddle, keeping our topological edge.

But *what about* phenomenology? *Does* it tend to privilege being over becoming? The question in fact cannot be answered without further consideration of what "being" means. In a certain sense of this term, Edmund Husserl, founder of phenomenological philosophy, did appear to favor being. According to Quentin Lauer, Husserl's translator, his "philosophy is primarily concerned with the essence of what is (*das Seiende*) rather than with the essence of being (*das Sein*). . . . His problem, then, is not to discover the essence of either being or truth [*Wahrheit*], but rather to guarantee that knowledge is of 'what is' and that it is true [*wahr*]" (1965, 46). In other words, because of his modernist preoccupation with obtaining "absolute scientific certainty," Husserl was unconcerned with being *qua* being; his abiding interest was in being *qua* apodictic knowing. It is this epistemic, or subjectivist, essentially Cartesian, being—this "transcendental *cogito*"—that Husserl privileges over becoming.

In contrast to Husserl, his student, Martin Heidegger, took the question of the "Being of beings" as philosophy's foremost concern. In the preface we saw that, for Heidegger, "Being is not a being, not God, an absolute unconditional ground or a total presence, but is simply the living web within which all relations emerge" (Bigwood 1993, 3). That is to say, *Be-ing* constitutes the dimension of dynamic life process, the lifeworld. Here neither being nor becoming can be favored one-sidedly, since these modalities have not yet been torn asunder. (Recall, though, from the preface, that Heidegger himself did occasionally lapse into a nostalgic valorization of "original being.") It is the pre-trichotomous, inherently ambiguous, ontologically hybrid lifeworld that classical, modernist, and postmodern philosophies have all skipped over in their drive for one kind of "purity" or another. In the whole of Western philosophy, only ontological phenomenology appears to have had the stomach for pursuing the paradox of being and becoming (subject and object, identity and difference . . .) all the way down into its lifeworld roots.[7] Rather than seeking simply to eliminate the ambiguity, onto-phenomenology would consciously embody it, transform it into diaphanous flesh.

In the topological elaboration of ontological phenomenology that is to follow, we will explore the primordial ambiguity native to the *topos*. Here, among other things, we will find (1) that Being grows and develops like a living organism, (2) that there is more than one dimension of Being, (3) that these ontological dimensions develop in relation to each other, and (4) that new dimensions of Being arise from the dialectical interplay of the old. Most importantly, we shall discover that topological Being is *us*.