



The Topological Multiplicities of Power: The Limits of Governing the Olympics

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abstract

This article proposes that economic geography would benefit from a closer consideration of the topological multiplicities of power, that is, the multiple contending configurations of networks that make power a precarious accomplishment through creating constant overflows. It develops this argument by tracing how the circulation of knowledge in the preparation for the Olympic Games establishes sociomaterial networks that are meant to allow the International Olympic Committee to coordinate the organization of the event. On the basis of Bruno Latour's concept of the oligopticon, the article develops a sociomaterial notion of power to govern at a distance that emerges through the triple movement of collecting and mobilizing information, casting it into stable intermediaries, and recirculating knowledge. At the same time, a parallel narrative considers how this power and its spatial reach remain always partial and are transformed by overflows as elements move in and out of networks and how forces outside the network bear on it, creating "absent presences." Giving adequate attention to these topological multiplicities of sociomaterial networks offers an important counterweight to the dominant notion of stable social networks in economic geography and is particularly useful when analyzing the governance of projects and various other forms of ephemeral, distributed organizing.

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2

Over the past decade, economic geography has experienced a sustained resurgence of a concern with power—the ability to affect action (e.g., Allen 2003; Faulconbridge 2012; Faulconbridge and Hall 2009; Lee 2000). Understanding power and its particular spatialities is central in a world where the production of economic value is increasingly dispersed across sites and gaps between here and there need to be bridged to coordinate action. In economic geography, two distinct readings of power have emerged. One is that of power as a centered, resource-based attribute. Power in this sense is a capacity that some actors possess over others *qua* resources, such as money, people, or knowledge (e.g., Peet 2007). The other reading sees power as having a networked form and being an emergent property of the associations that make up these networks. This relational notion of power has been bolstered by the turn toward a relational economic geography and underscores that power is distributed and needs to be actualized in practices (Allen 2003; Yeung 2005).

This article develops an affirmative critique of relational accounts of power that works to incorporate the topological multiplicities of power. A topological view of power sees it as arising from heterogeneous, sociomaterial relationships that enable “distant actors to make their presence felt . . . by dissolving, not traversing the gap between ‘here and there’ ” (Allen 2011, 290), thus not so much being located in space as composing it in the first place (cf. Amin and Cohendet 2004). Social topology thus focuses on how proximities and distances are a function of the more or less intensive relationships between humans and nonhumans. Recognizing the *multiplicities* of topologies means recognizing that there is not one coordinated set of relationships from which power emerges to create a single reality, but that there are multiple potential configurations of networks, composed of an assemblage of humans and things, that may overlap, overturn, contradict, or flow into each other. Connections break and are transformed, and elements slip out of networks and are enrolled in others—what Callon (1998) called overflows. This idea of multiplicities was drawn from Deleuze (1988 [1966]; Deleuze and Guattari 1987), who took it to mean that entities do not reference a prior unity or structuring principle, but are porous and in constant transformation, attaining stability only for limited durations. This article works through the topological multiplicities of power mobilizing Latour's (2005) concept of the

oligopticon: a precarious center of power that attempts to enroll others in network associations and govern at a distance.

On the empirical plane, the article presents a case that can be considered as emblematic for illustrating the topological multiplicities of power. It draws on the Olympic Games as an example of a large-scale project (cf. Grabher 2002) to examine how the International Olympic Committee (IOC)—as an oligopticon—attempts to govern at a distance by forging connections and enrolling a multitude of elements from different locations to stage the most complex mega-event on earth. In this process of emergence, network arrangements are often precarious, since relationships are forged anew for each edition of the Games. Networks frequently change shape, and elements wander from one network to another. By tracing how relations are established, but, crucially, where they are transformed and liquefied and how they reflect what is not in the network, the article explores the topological multiplicities of power and how they make the IOC's capacity to govern often rather selective.

The focus on the topological multiplicities of power in large-scale projects further develops two major strands of economic geography research. One strand is on *networks*, knowledge networks in particular, in which stress has been placed on a functionalist reading of networks as stable, cohesive entities, marked by strong ties between social actors that enable economic action (cf. Grabher 2006, 181; Grabher and Ibert 2006). Networks are made up of ties that bind, whether the ties are of transnational professional service firms (e.g., Faulconbridge 2007; Jones 2007) or firms in innovative regions (e.g., Krätke 2010). But this concern with the stability of networks has all but skirted around multiplicities. Yet “is not a net made up, first and foremost, of empty spaces?” Latour (2005, 242) asked. Is power not constituted just as much, through what remains outside a particular network—through the relationships that break, transform, or never were in the first place—as through the relationships that hold? With the concept of multiplicities, the article offers a handle on those elements that are beyond and between relationships and present alternative network configurations that may or may not become actualized. It thus works toward a more ephemeral and fluid conceptualization of networks—a fluidity, it should be added, that often also allows them to adapt more easily to unforeseen circumstances and new situations by changing shape.

The second contribution is more empirical and is related to the work on projects and forms of temporary, distributed organizing. In what is sometimes called the “projectification” of work (Midler 1995), we are witnessing the spread of an emergent form of organizing through the ongoing shift from permanent organizations to more transient, task-oriented projects that often assemble teams on an ad-hoc basis and across different sites (Asheim 2002; Ekstedt, Lundin, Soderholm, and Wirdenius 1999; Grabher 2002; Lam 2000). This projectification is becoming more and more common outside the sectors that are typically associated with it, such as consulting, design, marketing, software, engineering, and aid and disaster relief. Mintzberg (1980) termed these organizations “operating adhocracies”—fast moving and task oriented with fluid structures and manifold interfaces with their outsides. Temporary organizations typically assemble elements from different places to become operational; in this sense, one can speak of a distributed form of organizing. For analyzing how projects and adhocracies operate and are governed at a distance, the concept of topological multiplicities is well placed to do justice to the changeable goals, varying network compositions, and time-spatial arrangements of these organizational forms.

In its methodological approach, the article responds to the demand to attend more to the actual workings of power and how it is exercised at the level of individuals. It thus reacts to the justified critique that in economic geography “too often, . . . the sociospatial

processes involved in constructing power relations are studied obliquely, superficially and in ways that have limited explanatory capability” (Faulconbridge 2012, 736; see also Allen 2011; Sunley 2008, 17). The article traces the processes of network formation in connection with a recent move of the IOC to play a stronger coordinating role in the Olympic Games by facilitating a system of transferring knowledge. It draws on participant observation in the IOC and at events dedicated to knowledge transfer and 47 semistructured interviews with staff from the IOC administration; the Organizing Committees of the Olympic Games (OCOGs) in Vancouver (2010); London (2012); Sochi, Russia (2014); and Rio de Janeiro (2016); and consulting experts.¹ Material from the field research was supplemented with documents from the IOC Extranet, the main knowledge-exchange platform of the Olympic Movement, which serves as a digital document repository and reference library. This research has created unique material that allowed me to examine the emergent topological multiplicities of power in the organization of the Olympic Games across sites from the key players who were involved in them. Heeding the principle of actor-network theory (ANT) to trace associations—“reassembling the collective” (Latour 2005, 248)—this article follows the traveling of knowledge in the Olympic Games and, woven into the empirical narrative, considers the theoretical implications of how power is understood.

Amassing Resource Power but Remaining Blind: The IOC from 1980 to 2000

In economic geography terms, the IOC is an interesting organization. Its primary mission, according to Article 2 of the Olympic Charter, is to ensure the regular celebration of the Olympic Games. For this purpose, it elects host cities and monitors the OCOGs that are set up by host cities to organize the Olympic Games and represent separate legal entities under the respective national laws. In more practical terms, ensuring the regular celebration of the Olympic Games means coordinating and bringing together hundreds of thousands of people and objects that are dispersed across the globe. To give an idea of the immense size of this task, the 2012 Summer Olympic Games in London involved more than 10,000 athletes, a workforce of more than 200,000 people, 10.8 million ticketholders, and an official budget of somewhere around GBP 9 billion (London Organising Committee 2012). The Olympic Games are sometimes called the largest peacetime project and likened to “the equivalent of organizing twenty-six international sports events, ten royal weddings, three European Capital of Culture programmes, two World Expos and one World-Cup Final all at the same time and over a sixteen-day period” (Miah and García 2012, 103). At the same time as the London Games were taking place, preparations for the Winter Olympic Games in Sochi, Russia, and Pyeongchang, Korea, and the Summer Olympic Games in Rio de Janeiro were also in full swing. In each location, the Olympic network needs to spread out to enroll a diversity of elements: architects from Germany, consultants from Australia, construction workers from Turkey, metal detectors assembled in China, snow cannons made in Austria, footballs from Bangladesh, laptops from Taiwan, and so on.

How does the IOC achieve this feat of coordination? The answer is that for a long time, it did not achieve it at all or even try to. Until well into the 1980s, the IOC had

¹ The focus on the IOC and the OCOGs covers the two central organizations in charge of coordinating the planning activities for the Olympic Games. Verbatim quotes indicate the organizational affiliation of the interviewee but do not provide additional details so as to maintain anonymity. All opinions expressed here are personal and do not represent the official position of the respective organizations.

little financial or human resources to support the Olympic Games. The IOC administration in Lausanne consisted of 2 or 3 salaried staff until the 1960s, which grew to about 20 in the 1970s (Chappelet and Kübler-Mabbott 2008, 27). After the host cities were chosen, they were left to their own devices to organize and fund the Games and create potential revenue from them: “the IOC generally announced the winner of the Games and then left it to the organizing committee established by the host city to deliver the Games” (Pound 2004, 11). This situation changed when Juan Antonio Samaranch took over the presidency of the IOC in 1980. Samaranch made substantial efforts to allow the IOC to appropriate resources and value from the Olympic Games. Toward this end, he launched a global sponsorship program and transferred the negotiation of broadcasting rights, by then the largest source of revenue, from individual OCOGs to the IOC. These moves created control over large parts of the revenue from the Olympic Games.

In the 1980 and 1990s, the IOC thus amassed resource power. The notion of resource power assumes that power is a capacity of particular actors—firms, states, cities, and so on—on the basis of control over resources (Allen 2003, 15–37). This is a largely instrumental view of power in which others are expected to comply with the rules set out by the central power (Sharp, Routledge, Philo, and Paddison 2000). The source of power is the command over capital, rules, military forces, or other resources that are at the disposal of particular actors in privileged centers. This understanding of power is evident in Peet’s (2007, 1) *Geography of Power*: “Power means control, by a person or an institution, over the minds, livelihoods and beliefs of others. Power accumulates into systems. With the term ‘geography of power’ I refer to the concentration of power in a few spaces that control a world of distant others.”

The growing resource power base of the IOC, as evidenced in its control over the resources and rules of the Olympic Games, did not, however, allow the IOC to exert significant control over the organization of the Games themselves. Although the IOC sets out certain requirements in a 50-page host city contract,² how to achieve the requirements has long been left up to the individual OCOGs. Because of the generic clauses in the contract, OCOGs had considerable leeway in the choice of process. As one member of the IOC administration put it: “people just followed their gut feeling.” This statement resonates with Allen’s (2003, 157) observation that resource power may be squandered, misused, or applied to little effect: “the spread of certainties from the ‘center’ outward tends to be assumed and not evidenced.”

In fact, the low degree of connections between the IOC and the organizing committees, together with the increasing complexity of the Olympic Games, sometimes led to a severe waste of money or inadequate levels of service to client groups during the Olympic Games. Mistakes and detours with huge cost implications were repeated in several host cities, sometimes resulting in the near failure to deliver the Games: “Behind the scenes, the whole operation is often held together with the proverbial chewing gum and baling wire” (Pound 2004, 206). In the run-up to the Olympic Games in Atlanta in 1996, grave complications arose with inadequate and delayed planning for critical areas and excessive commercialization, and the IOC was worried that things were getting out of hand, since the OCOG had underestimated the complexity of the planning that was involved.

² See, for example, the London 2012 host-city contract, which is available under the Freedom of Information Act at www.gamesmonitor.org.uk/node/553 (last accessed 09 August 2013).

Becoming an Oligopticon: The IOC from the 2000s

Despite its extensive resource base, then, the IOC was unable to project power across space and ensure a smooth and adequate preparation process on the ground—a predicament that jeopardized the fulfillment of its mandate to guarantee the regular celebration of the Olympic Games. The IOC realized that to control the organization of the Olympic Games, it needed reliable delegates for its power to be mediated across space. These delegates were to be obtained with the introduction of a knowledge management and transfer system that sought to “re-establish ownership of the Games” and make all actors “sing from the same hymn sheet” (interview with a staff member of the IOC administration). The basic idea was to circulate knowledge on how to organize the Olympic Games among the different OCOGs, not only providing guidelines, lessons learned, and best practices of predecessors for current OCOGs to emulate, but preformatting when organizing an Olympic Games what an OCOG had to do and how it could be done. This mobilization of knowledge was designed to provide the IOC with the ability to affect what was happening on the ground in faraway places. “For control,” Callon and Law (2004, 4) wrote “something has to move.”

6

Phrased in more conceptual terms, the IOC aimed to build relationships, connect sites, and set out to become what Latour (2005) called an oligopticon. Latour developed this notion from his earlier one of the center of calculation (Latour 1987). The oligopticon is similar to a center of calculation in that it produces knowledge claims through a triple movement of first bringing home distant worlds (localizing the global), then combining elements, and finally recirculating the product of combination (globalizing the local). However, an oligopticon is also different from a center of calculation in two important respects. First, the concept also covers centers in which metaphorical calculations are performed, not just literal ones, as in the centers of calculation. Metaphorical calculations can best be understood as the combination and processing of practices, texts, techniques, people, and materials that are then put into a black box to create new knowledge claims. By recirculating these claims to knowledge with the help of mobile delegates, an oligopticon establishes network associations with other elements.

In contrast to most economic geography accounts of networks, particularly knowledge networks, it should be stressed that the power of an oligopticon rests on the assumption of associations being composed of humans and things—what Deleuze and Guattari (1987, 88) called an assemblage. For economic geographers, networks have typically been made up of social relationships and described as “interpersonal” (Grabher and Ibert 2006) or as a “specific set of linkages among a defined set of persons” (Glückler 2007, 621, quoting Mitchell 1969, 2). Temporary organizations in particular have been characterized as relying on individual-embedded knowledge (Ekstedt et al. 1999). No doubt this anthropocentric focus is indebted to Granovetter’s (1990, 96 emphasis added) influential formulation that “economic activity is mediated by . . . networks of *social* relations,” that is, relationships between humans. In general, then, as Amin and Cohendet (2004, 71) pointed out, “the anthropomorphic dimensions of knowing and learning continue to be overemphasized.”

The material component of associations, however, is crucial for two reasons if we talk about power as an effect of distributed associations. First, materials are often able to circulate with less effort than humans and thus are better able to establish associations (Murdoch 1998). Despite the spread of business travel (Faulconbridge, Beaverstock, Derudders, and Witlox 2009), an electronic document moves both more quickly and is more easily replicated and distributed to become ubiquitous than is a person. Second, materials are also more stable and hold their form better than humans (French 2000;

Latour 1987). Whatever is inscribed in materials thus tends to have a certain measure of durability—a durability that makes it more permanent, but also often more resistant to change and adaptation.

In contrast to his earlier concept of the center of calculation, and this is the second important difference, Latour explicitly signaled the limits of power with the choice of the term *oligopticon*. An oligopticon—as the name implies—sees and orders some things, but not others; it has “sturdy but extremely narrow views of the (connected) whole . . . as long as connections hold” (Latour 2005, 181). There is thus much that escapes the gaze of an oligopticon. If we were to follow only the network associations, we would not see the “necessary Otherness that comes with the project of centering” (Law 2002, 137). The point here is not just that power is limited, which would be a moot one. The point is that these limits are constitutive of economic action; each attempt at ordering a network and creating an inside is necessarily set against a disordered outside that shapes this process. Callon (1998, 252, 55) set this out most clearly in his dynamic of framing and overflowing that creates multiplicities when he wrote that: “a framing process . . . is always incomplete and . . . without this incompleteness [it] would in fact be wholly ineffectual. . . . A totally successful frame would condemn the contract to the sterile reiteration of existing knowledge.” What Callon called “overflows,” Mol and Law (1994, 2001) referred to as “fluids,” and Latour (2005, 244) had a similar notion of multiplicity with his concept of “plasma” (cf. also Allen 2011).

The oligopticon and its attendant notion of multiplicities present an important counterpoint to scholarship in economic geography that has so far privileged networks as stable, coherent entities. As Grabher and Ibert (2006, 252) observed, economic geography “uses networks as shorthand for enduring, robust, and trust-based ties . . . and cohesive and stable social underpinnings.” The alignment of interests of different actors through a process of network stabilization has figured in several studies in economic geography: networks are linked to the establishment of trust; the spread of best practices, standards, and knowledge; the organization of global production; and so on (e.g. Barnes 2002; Coe, Dicken, and Hess 2008; Leyshon and Pollard 2000; Reiffenstein 2006). Network relationships may be local or regional, creating institutional thickness that supports a shared sense of purpose, knowledge exchange, and synergies of interaction between organizations (e.g., Krätke 2010; Maskell and Malmberg 1999; Morgan 1997). Or they may span significant physical distances, as in the case of communities of practice or the knowledge networks that tie together distant offices in the professional service industries (Faulconbridge 2007; Hall 2007; Jones 2007). In either case, the emphasis falls on the enabling effects of comparatively stable networks. Critics have pointed out, however, that “economic geographies are produced not just by connections and networks, but also by innumerable economic fractures and fissures and the absence of connections” (Sunley 2008, 19; see also Vorley Mould, and Courtney 2012). This is precisely what the notion of the oligopticon allows us to become attuned to: stability is but one side of networks. Networks may be stable in some instances, but shift shape and transform in others.

In particular, the concept of the oligopticon allows one to address the concern that ANT-inspired approaches have been unable or unwilling to conceptualize the whereabouts of power and power differentials (Dicken, Kelly, Olds, and Yeung 2001; Ettlinger 2003; Grabher 2006; Jones 2008). As a center that sees and is able to coordinate some things well, as long as connections hold, the oligopticon specifies how powerful actors emerge through circulation and combination processes. At the same time, however, it also emphasizes that power is a precarious effect. It thus offers one possible reading of more nuanced notions of power and its limits in organizational settings that have been

called for in economic geography (Faulconbridge 2012; Faulconbridge and Hall 2009; Yeung 2005), rather than viewing it as an all-encompassing force.

The task for the ensuing analysis is thus twofold. One is to describe the attempts of the IOC to create a mediated power at a distance and to establish sociomaterial associations through the triple movement of bringing the world to the center, combining and processing, and then recirculating. The second is to highlight the topological multiplicities of power and examine how they interact with and intervene in the process of network building. Since these two processes are not sequential but parallel, this parallelism is reflected in the structure of the following sections, where the description of establishing associations (the network) is intertwined with the overflows of the network that spawn topological multiplicities.

Bringing the World to the Center: Bringing Sydney 2000 to Lausanne

8 Until the beginning of the 2000s, the IOC had little detailed knowledge about the process of planning and organizing the Olympic Games. As is typical for project-based organizing (Grabher 2004a), the knowledge acquired in organizing the Olympic Games quickly disappeared with the dissolution of the OCOGs after the event. To avoid the disruptions that were witnessed in Atlanta and keep closer tabs on the progress of preparing for the Games, the IOC sought to build a knowledge transfer system starting with the Olympic Games in Sydney in 2000. As a staff member of the IOC administration noted: “The Australians were very good at learning from these shortcomings [in Atlanta], they were very good at documenting their processes, and . . . we were keen on bringing more support to the organizing committees; we realized [that] the IOC had a role to play” (interview).

The documentation from Sydney included 38,000 electronic files and more than 120,000 records, such as paper files, photographs, and videos (Halbwirth and Toohey 2001). Conserving and circulating those vehicles had become possible because the Sydney OCOG had been the first to introduce a large-scale program for documenting and managing knowledge. The task of circulating knowledge was made considerably easier through the use of websites and mass storage media, such as CDs, both of which had become common during the lifetime of the Sydney OCOG. This documentation, however, did not circulate freely to the IOC; it had to be bought for AUD 5 million (about USD 2.5 million at that time). What is crucial here is the mobilization of information, which allows the oligopticon to forge associations in the first place and is contingent on the material form of the information. Material vehicles render information mobile and make it durable at the same time so that it outlasts the lifetime of temporary organizations such as the OCOGs (Latour 1987).

Combining and Processing Knowledge: The IOC Administration

Assembling Knowledge Claims

Although the IOC had acquired the vehicles that held the relevant information from the Sydney Olympic Games, it could not handle and process this information on its own. Although the sheer quantity was an issue, the IOC also lacked people with the necessary skills and operational Olympic Games experience to transform this information into relevant knowledge. The combination processes to become an oligopticon therefore required the mobilization of people who were able to process and combine this infor-

mation. In the beginning, this challenge was approached by setting up a separate organization, wholly owned by the IOC, which was to deal with collecting information and processing it into knowledge and was partly staffed with former Sydney OCOG managers who had the necessary experience.

The thousands of texts, photographs, plans, budgets, and so on could now be condensed into what was to become the guiding document for future OCOGs: the material object of the IOC Technical Manuals. As of 2012, there were more than 30 of these manuals with several hundred pages each that set out the major milestones for different functional areas in the OCOGs and the best practices to achieve them. In the best sense of Latourian calculative combination, the Technical Manuals combine descriptions of the main factors to be considered in delivering a particular service with photographs, diagrams, and tables into one guideline with a coherent, unified format. All manuals are standardized; that is, they follow the same outline and have the same layout to allow for easy cross-referencing. It is crucial to note that it is an object—rather than humans—that forms the cornerstone of knowledge networks here. This point is of central importance when it comes circulating the Technical Manuals.

What does not become evident from tracing the associations that make up the Technical Manuals, however, are the elements that shaped the network without becoming enrolled in it. This Otherness creates absent presences (Hetherington 2004; Law and Mol 2001): effects on the network without joining the network. One of these absent presences was deep-running controversies about what to include and what to exclude in the Technical Manuals. As one consulting expert recalled: “There was one manual where we almost fell out with each other, because I believed there needed to be more specific guidance, more details, and [an IOC senior manager] believed there shouldn’t be” (interview). This argument was fueled by differences in opinion among different factions within the IOC about the extent to which the IOC should intervene in the preparation of the Olympic Games on the ground. In essence, this was a debate between more hierarchical and more heterarchical network structures (Grabher 2006): more heterarchical relationships meant greater autonomy for OCOGs and less control by the IOC, whereas hierarchical relationships through providing more specific direction meant greater control but came with the risk that the IOC might have to shoulder part of the blame if things went wrong. After all, the OCOGs then would have claimed that they had merely followed the IOC’s advice. The Technical Manuals thus reflect a still-ongoing controversy about the level of involvement of the IOC in hosting the Games. So, as Law and Mol (2001, 617) wrote, what is present—the Technical Manual—“*depends upon* that which is absent (so it is present) but . . . at the same time depends upon *making* it absent” because an internal political struggle could not be cited as a rationale for how to compile a Technical Manual.

The combination process that creates the Technical Manuals is a continuous one, for as new Olympic Games are staged, the manuals are adapted to incorporate changes and learning. Technical Manuals thus emerge from an intricate process of evaluation, ranking, analyzing, and deliberating in the course of which they enroll diverse elements in the network and hold them together. Information flows are channeled, and the processing of information is standardized. As such, Technical Manuals function as simplified, abstracted claims to knowledge whose contingency has been rendered invisible by veiling the traces of the abstraction processes that constituted them (Latour 1987). But what worked well for the information from Sydney 2000 worked much less well for other Olympic Games. In particular, language turned out to be an obstacle for the combination process. Although English is the official working language between the IOC and the OCOGs, OCOGs outside English-speaking countries com-

monly adopt the local language as the internal working language. As a consulting expert stated:

What Beijing ended up doing was: “Yeah, we’ll give you all our stuff post Games.” Then, a year after the Games, they said “Here’s our stuff, and we have 30,000 documents in Chinese. There you go!” You can’t really do anything with that, and my understanding is that the IOC tried to and invested quite a lot of time and money probably trying to translate the document names into English to try and establish whether there was any useful content in Chinese in that stuff and kind of probably concluded that there probably wasn’t and that it wasn’t worth the cost and effort of trying to translate it (interview).

10 So although the documentation as such may be available and can be mobilized, it is sometimes difficult to order it into a coherent network. Documents in Chinese that served their purpose well for organizing the Beijing Olympic Games are resistant to being integrated into the network building of the IOC. Some things thus escape the gaze of the oligopticon: a competing network that was able to achieve the coordination of action for the Beijing OCOG now circumscribed the power of the IOC to govern at a distance. Even where the documentation was delivered in English, however, there remained the challenge of combination. OCOGs dumped huge amounts of documents with the IOC after wrapping up their operations, which often represented the unstructured whole of the contents of file servers and hard drives. As the consulting expert said, “You know, after the Games people can’t be bothered to write a freaking report. Over is over. They just take the documentation they can find, slap something together, and send it off” (interview). Lacking the experience of people who worked with those documents, the challenge for the IOC was to make this information combinable: to separate important from unimportant information, link pieces of information together, structure them, and condense them into relevant knowledge. The process of ordering the network thus often failed because of a lack of processing abilities and capacities.

Establishing Obligatory Passage Points

Experiencing these difficulties in assembling the network, the IOC realized that the processes of bringing knowledge back home had to become better formatted and rationalized. As a consequence, in 2008 and 2009 it introduced the Building Knowledge Capabilities program in its relationship with the OCOGs. One central objective was to provide for the collection of knowledge over the whole life cycle of an OCOG, thus attempting to circumvent the dual problem of either not receiving any useful documentation at all or receiving all at once as an unstructured conglomerate at the end of the Olympic Games. A pivotal component of this new program was the Transfer of Knowledge Action List, known as the TOK list. This list contained more than 2,500 items to be collected and submitted via an online tool at specific points in time. It was intended to serve “as the single reference point for transfer of knowledge related contributions. It answers the questions of what knowledge needs to be collected and transferred, how and when” (International Olympic Committee 2010, 167).

The TOK list was thus turned into an obligatory passage point (Callon 1986) in the relationships between the IOC and the OCOG; it forced the elements in the network to converge and speak the same language, mediating between them. Together with the Technical Manuals, the TOK list was designed to allow the IOC to reach into the OCOG at a distance, not only bringing information back home but enrolling elements into the network. If, according to the TOK list, a certain operating plan, for example, has to be delivered at a preset point in time, this requirement also preformats the planning process in the OCOG. This integration of knowledge with event planning was also addressed as

a key feature of the new Building Knowledge Capabilities approach: “We do not collect knowledge for the sake of it. We more and more are trying to align the processes, trying to align the tools, trying to align the needs” (workshop statement from a staff member of the IOC administration). As an obligatory passage point, the TOK list enabled the oligopticon not only to see better what is happening, but to order the network and enroll the different OCOGs—whether in London, Sochi, or Rio de Janeiro. It thus became a quasi-standard (Latour 2005) that made sites commensurable and attempted to format and sequence them in similar ways.

The introduction of the TOK list allowed for the structuring of the process of bringing home information and fulfilled another important purpose. In stipulating deliverables, such as plans, budgets, models, and schedules, that are specified in the Technical Manual and spreading them out over time, it helped precalculate the information that was coming home to the IOC. This precalculation shifted much of the onus of combination from the IOC to the OCOGs, with the Technical Manuals acting as “faithful emissaries” (Law and Hetherington 2000, 42) that format the combination process. What information arrives in the center is now so much precalculated that the further combination—updating manuals and guides and perhaps writing some new ones—can be achieved by the IOC administration with the help of some consulting experts with operational experience. In so doing, the IOC as an oligopticon has a crucial advantage: it employs staff who are handling several Games at once, which—now that information is preformatted—enables them to consult inscriptions from parallel or previous Games and draw comparisons, making adjustments to Technical Manuals and other guidelines. The hundreds of thousands of people and objects that need to be coordinated for the Olympic Games now come together—at least that is the design—in ordered networks with the Olympic Games Department of the IOC in Lausanne as an oligopticon. The ordered relations of the oligopticon allow the IOC to run this department with no more than 20 staff members—few resources, but many associations that allow them to see and order what is going on in distant places. This status of an oligopticon is reflected in condensed form in the following statement of an OCOG staff member: “The IOC is like a huge, huge, huge boss with a huge brain and a huge memory and a huge experience. They give us the things, they accumulate the knowledge during the different Games, of all Games that have been held. They can transfer it, share, they could tell us about our focus, and they can tell what is our progress, where are we now, how do we do this or that.”

Notwithstanding its ambition to act as an obligatory passage point, however, the structured program of bringing knowledge back home still encounters regular difficulties that hamper the collection and ordering of knowledge. For one thing, staff in the OCOGs often cannot be persuaded to put effort into sharing knowledge when they are busy with operational planning, since there is no immediate benefit for the tasks they are facing. As a consulting expert noted: “I don’t want to be bothered during the Games, worrying about knowledge transfer. I want to be able to run the Games, and it’s hard for me to spend time even during the planning to sit down and think about what knowledge I want to transfer” (interview).

Because complying with the TOK list is mandatory, there is no way around its requirements, but its preformatted nature frequently engenders a rote check box mentality: the staff may be willing to pass on existing documents, since doing so requires little effort, but those deliverables that ask for active reflection on lessons learned tend to be completed half-heartedly. Failures are often smoothed out enough in retrospect to render outwardly flawless accounts of “best practices” that emerged through repeated trial and error.

Staff are sometimes also reluctant to share knowledge because they regard it as their main capital when moving from one OCOG to the next. As a consulting expert explained,

“You often get this attitude: ‘I’ll take as much information as I can from the Games, and I’ll be very reluctant to give a lot of my ‘This is what went wrong. This is what went right’ because that’s how people in the event world stay employed” (interview). So some information escapes the comprehensive attempt to document it and bring it back into the fold. The IOC may have enhanced its ability to mobilize information in an ordered fashion, but there is information that overflows or bypasses the mandated circuits and connects into other networks. This process can be described as placing information beyond reach, so the IOC is unable to master it and bring it back into its reach (Allen 2003). Topological multiplicities thus limit what the IOC can see and what it can act on at a distance. The IOC often does not get to know what it wants to know and has only a partial view of what has been happening in the host cities.

Recirculation and Acting at a Distance

12 As has been shown, the IOC has been able to gather information from the OCOGs and combine it into new forms. Although this process is not without overflows and some information escapes or cannot be combined into knowledge, it does work well enough. The final piece in the mosaic of establishing an oligopticon, then, is the recirculation of this knowledge: “Whenever a locus wishes to act on another locus, it has to go through some medium, transporting something all the way; to go on acting, it has to maintain some sort of more or less durable connection” (Latour 2005, 220). For the IOC, Technical Manuals and other abstractions, such as templates, figures, and models, were intended to act as what Latour (1993, 2005) described as intermediaries: mobile material delegates that transport meaning without transforming it from site to site and are able to extend the spatial reach of the IOC by enrolling others in its interest. The material, in electronic or printed form, fashions these abstractions with a durability that cannot be rivaled by humans. People come and go in the Olympic Games, given the temporary nature of the event, and even those who stick around for several events change their opinions or may work with another organization, taking their knowledge with them.

This severe atrophy of knowledge is not untypical for projects, which tend to be characterized by amnesia and ephemeral connections based on personal ties (Grabher 2004b). Because of this atrophy of knowledge from one Olympic Games to another, the IOC is in a rather privileged position for recirculating knowledge. At the time of the formation of an OCOG, seven years before the event, there is hardly any expertise in the planning processes to deliver the event and achieve the requirements stipulated in the host city contract. Because of the itinerant nature of the Olympic Games, almost all the staff of an OCOG have never organized the Olympic Games before and have, in the words of a member of the Sochi OCOG staff, “hardly any clue of how to achieve the requirements from the host city contract.” The knowledge transfer provided by the IOC free of charge therefore falls on fertile ground because it provides some templates, figures, and guidelines to orient and inform the planning.

OCOgs are enrolled through the circulation of a number of different intermediaries. A central one is the technical manual. Interview partners in the OCOGs reported that the Technical Manual was the single most important document for them to structure their work and that it provided the basic orientation during the first week at work and functioned as a reference to go back to whenever they faced obstacles. In most offices, the Technical Manual was clearly visible, often on the desk, when I conducted interviews. As one member of the Sochi OCOG staff put it: “It’s like a bible. It would be hard to imagine work without the document. It’s important to make sure that what you are doing is in correlation with this manual. But it is also important when you work with col-

leagues: I show them what is written in the manual. It helps in discussions: ‘No, we do this and not this because it is written here. Not something else’ (interview). The formatting effect of the Technical Manual as a quasi-standard is patent in this statement. It is similar to that of standards, which act as objects of knowledge to govern and align behavior and make it transparent as well as intelligible to others (cf. Higgins and Larner 2010). Several interviewees remarked that the printed paper form of the manual made it easy to share with colleagues, but also fashioned it with particular authority that could not be disputed. In the Sochi OCOG, the Technical Manuals had been translated into Russian to share some of their contents with stakeholders and contracts and inform them about requirements and past best practices. After the first few weeks at work, new hires were grilled on the contents of the Technical Manual for their area in formal tests that had to be retaken if failed. Embedded in these organizational routines, the Technical Manuals performed the work of further enrolling elements in the network and aligning them, making it possible to act at a distance.

Technical Manuals, as well as several thousands of related documents from previous OCOGs, are hosted on the IOC extranet, a platform for managing and sharing documents that facilitates their circulation. Documents posted on the extranet provide crucial information and templates for planning processes in an OCOG and have been reviewed by the IOC. The Building Knowledge Capabilities approach, in combination with the IOC extranet, allowed the IOC to speed up the circulation of documents significantly, which was one central aim. Whereas earlier, an OCOG would have to wait until the end of the previous Games to receive the pertinent documentation and thus would already be more than three years into its planning phase, Building Knowledge Capabilities guarantees that current information is available on a continuous basis. It allows the IOC to format the setup of an OCOG and orienting its planning during the formative stage at the beginning, when many key strategic decisions need to be made and trajectories need to be plotted that are difficult to revise later.

In addition to documents, it is also people who circulate and spread knowledge. The mobility of professionals has been documented as an important factor in the transmission of knowledge in other contexts (e.g., Faulconbridge 2006; Jones 2007). In the case of the organization of the Olympic Games, it is the IOC workshops that act as an important hub for the face-to-face circulation of knowledge. These workshops are conducted by IOC-approved experts, who have operational experience with multiple previous Games, and are hosted in the OCOGs. The first workshop typically takes place soon after the establishment of a particular functional area in an OCOG to provide a first orientation on the most important issues, drawing on knowledge from previous Games, and “bring people up to speed” (workshop statement of a staff member of the IOC administration). A second one often follows two or three years later “to now educate a bigger audience, including our clients. So we bring everybody together at the same table . . . let’s get people from outside—from the government, from contractors, from service providers, from local authorities” (workshop statement of a staff member of the IOC administration). Similar to the circulation of Technical Manuals and ancillary documentation, workshops aim to enroll OCOG staff from the beginning and then spin out to extend the network beyond the OCOG, aligning other relevant actors with the interests of the IOC.

At the same time, limiting itself to the dissemination of knowledge, the IOC cannot meet the strong demand of OCOGs for developing solutions and operational expertise. Hiring consulting experts on a temporary basis or permanent staff members with previous Games experience is therefore a common practice among OCOGs. Doing so, however, creates flows of knowledge that bypass the oligopticon, curtailing the ability of the IOC to govern at a distance. In particular, it obfuscates what counts as the current and

valid IOC-sanctioned knowledge and what are perhaps outdated or consultants' interpretations. Sometimes OCOG staff receive information from consultants that conflicts with knowledge that the IOC circulates, creating considerable confusion. A consulting expert recounted the following example: "There is a guy who works in functional area A here and who has done several Games, and he just said at a recent meeting: 'Ah, but we have to keep the IOC's client pyramid in mind.' And all of a sudden, people here started to think that there was a hierarchy of clients with the IOC and had this new concept in mind, whereas in fact this is complete nonsense" (interview). Because of the particularly high demand for guidance early on, OCOGs often spend significant sums on the expertise of external consultants. Since this knowledge does not pass through the obligatory passage point, the IOC's ability to coordinate action in these circumstances is limited, and, in effect, it sometimes finds OCOGs heading off in an unexpected direction, following consultants' advice.

14 A similar effect can be observed with personal networks that also characterize projects (Grabher 2004b) as well as global professional service firms (Faulconbridge 2006). These networks outlast one edition of the Olympic Games, conserving latent ties through which to access knowledge to be applied in the next. The small group of so-called Olympic gypsies—people who work in several editions of the Olympic Games—often maintain close contact, either face to face (if working in the same location) or through Facebook, e-mail, and instant messaging. Instead of referring to the intermediaries circulated by the IOC, Olympic gypsies draw on their own stock of documents, accumulated over successive Games, or may simply Facebook a former colleague when they need help. This is a form of association that extends across space and time: information may be mobilized from a colleague working on the concurrent Commonwealth Games in New Delhi as well as from someone who worked on Beijing 2008 several years ago. Olympic gypsies will typically have worked in the same Organizing Committee at some point in the past, which allowed them to develop personal trust, and then maintained loose ties. These ties thus fall between Grabher's (2004a) ideal types of connectivity, as loose virtual connections, and sociality, as ephemeral but intense face-to-face contact. They short-circuit the ordered circulation through the obligatory passage point, as it were, cutting the IOC out of the loop by accessing knowledge via a rival network with more intense ties.

Networks can thus become fluid at times, when elements leave them, do not pass through the obligatory passage points, and become enrolled in other networks. This does not mean that action stops or fails. It is still accomplished, although not in the way that the oligopticon has formatted it and not in a way that the oligopticon could see or control it. "In a fluid . . . there is no 'obligatory point of passage'; no place past which everything else has to file; no panopticon; no centre of translation; which means that *every* individual element may be superfluous" (Mol and Law 1994, 661). An Olympic gypsy may not need a Technical Manual, it becomes superfluous, and the area of preparation for the Olympic Games that it is intended to format may be organized in a different way, but it is still going to be organized.

However, topological multiplicities affect not only the paths of circulation of intermediaries, but their very status as intermediaries. The abstraction processes that create them also veil the contingency of intermediaries. As one consulting expert said: "OCOGs get templates, presentations, figures from previous Games, but they don't know the methodology. They see the end result, but don't know the way how the previous OCOGs got there. Let's take the example of buses. If Sydney had 400, Beijing wanted to know: How many did Sydney have? But that's not important. What is important is: What is the formula? How did they figure out how they got to the 400?" (interview). Shutting out this contingency often makes it difficult to see certain results as the outcome of specific

contexts. Because the constitutive processes behind the black-boxed intermediaries are opaque, particularly for new OCOGs, OCOG staff initially tend to cling to previous procedures and templates to the letter without having a full understanding of their actual purpose. As a consulting expert noted: “People are tempted to copy and paste a lot and just shuffle paper around. They take processes too literally . . . But they forget that it needs to be operational as well. There is overengineering in the detail, instead of understanding the big picture (interview).

As a consequence, when confronted with unforeseen obstacles that necessitate a divergence from previous procedures, staff struggle to introduce the necessary adjustments. Although an intermediary is supposed to transport meaning without transformation, when it does fulfill this function, it also constrains the emergence of useful action at the same time—as in the previous quote: the uniformity of the network is unable to cope with the multiplicity of reality.

After a while, the IOC realized this danger and started to caution against taking documents too literally, warning that “we are not spreading the gospel” (interview with a staff member of the IOC administration) and that knowledge should be adapted to the specific local requirements. It encourages OCOGs to formulate their needs “by asking questions and make them try and think about different solutions rather than only one” (interview with a staff member of the IOC administration). This, of course, is somewhat ironic, given the IOC’s efforts to format preparation for the Olympic Games at a distance. However, it can be interpreted as a recognition of the inflexibility of networks, encouraging precisely the kind of multiplicity that Law and Mol (2001; Mol and Law 1994) wrote about. In other words, this is the dilemma of “knowledge as an object” versus “knowing in practice” (cf. Amin and Cohendet 2004, 8; Faulconbridge 2006; Ibert 2007). Knowledge as an object considers reality as knowable a priori and knowledge as something that can be circulated, stored, and exchanged. Knowing in practice, by contrast, insists that “knowing reveals and constitutes itself in knowledgeable action and purposeful intervention” (Ibert 2007, 105)—something the IOC as an oligopticon has been unable to create from a distance.

OCOGs do not get to the point where they can develop such forms of knowing in practice until just before the Olympic Games. As a member of the London OCOG staff stated:

Really appreciating and understanding things in LOCOG has probably happened over the last year [2010], when we went through the adolescent teenage years of perhaps throwing toys out of the pram, maybe too often challenging things too regularly. The relationship is very interesting because at the outset, the OCOG is very compliant and respects all the wishes of the IOC, but then every time when realities strike, budgets hit, and so on, then by necessity the OCOG has to think outside the box . . . In some ways, at Games time, you almost think at times that the OCOG is the senior partner at that stage because they’ve done all the test events, they know things, they know almost better in some regards than the IOC (interview).

At this point before the Olympic Games, the OCOG itself has evolved a situated practice of knowing that allows it to emancipate itself from the knowledge as object that the IOC is circulating. Doing so turns intermediaries into mediators that transform and translate the meaning they are supposed to carry, sparking multiplicities. However, as Latour (2005, 202) remarked: “if any of the intermediaries mutates into a mediator, then the whole setup, no matter how solemn or controlled, may become unpredictable.” This is precisely what happens as the Olympic Games get closer: as the OCOG becomes increasingly independent from the IOC, the power of the IOC to govern at a distance is

more and more constrained. Although the IOC remains in contractual control, action is no longer coordinated by it to the same degree as before, because other ways to accomplish actions are found and elements slip out of the network. For the IOC, this means that it will switch more to collecting information, combining it, and then recirculating it to the next OCOG in time, when the process starts over again.

Reflection and Conclusion

16 The Olympic Games are an emblematic case for the kind of distributed, ephemeral organizing that is becoming more and more common in our late modern world. It involves the coordination of economic action across distance between sites and the establishment of a mediated form of power that associates people and things and brings them together in network arrangements. The IOC attempts to coordinate the preparation for the Olympic Games by circulating knowledge and thus aligning and formatting the actions in the network. It does so in a three-step process of rendering information mobile, casting it into stable material form by combining and processing information, and then recirculating knowledge with the help of intermediaries to the organizing committees around the world. The role of material objects—plans, manuals, maps—should be highlighted here; these objects allow the IOC to temporarily stabilize a network to create power effects and draw the far-off into close reach. The networks from which power emerges are thus more than purely social; they are also socio-material.

These networks, however, are often precarious. They have holes and may start to fray at the edges, elements are enrolled into other networks, and circulation may not follow the prescribed conduits. This is what the concept of topological multiplicities encapsulates: despite the elaborate apparatus for capturing and circulating knowledge that the IOC has developed, some knowledge continues to escape being brought back home, but rather creates separate flows of knowledge flows bypassing the IOC. These bypasses limit the possibilities of enrollment since alternative sources of knowledge exist to fill the need for knowledge and shape action and, as a consequence, enrollment often remains partial and selective. Conceived as intermediaries—faithful transmitters of meaning—objects often turn into mediators that produce new meaning when knowledge is transferred across space and time. Thus, the very process that enables governing at a distance—the abstraction of knowledge from its contexts and the conversion into material form to enroll others—is at the same time one of its most significant limitations in preventing it from adjusting to new contexts. Stabilization and destabilization are thus two sides of the same coin: each attempt at stabilizing a network “is its own inescapable source of the threat of overflows” (Çalışkan and Callon 2010, 8).

Becoming more attentive to the topological multiplicities of power has important implications for economic geography. Above all, it allows for the foregrounding of the mutability of networks, thus acknowledging that they are precarious and that what is outside them shapes what is inside them. This mutability challenges the focus on network stability that can be found in most of economic geography. If economic geography focuses on power as an associational, mediated effect of relationships, it misses much of the dynamic that may be outside stable ties but at the same time is inseparable from them. It is this dynamic that helps projects adapt to new contexts and unforeseen circumstances, developing more fluid, situation-specific, and provisional ways of knowledgeable acting. As such, the notion of topological multiplicities offers a handle for grappling with the intricacies of ephemeral, distributed organizing.

Mapping these multiplicities through attending to the transformations of the existing network as this article has done does not imply that networks are always fluid. Clearly,

affecting action at a distance is often achieved, if not always in exactly the intended way. Rather, an attention to topological multiplicities gives us a more acute sense of what power can achieve, where its limits are, and where and how it is subverted and transformed and that the outside of networks is constitutive of the inside. It would be the task of economic geographers, then, to chart where and why networks are stable and able to bridge distance and where they become fluid and the spatial reach of power is transformed as well as what alternative action this results in. After all, as Deleuze and Guattari (1987, 239) reminded us, “power centers are defined much more by what escapes them or by their impotence than by their zone of power.”

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