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Immunizing Inefficient Field Frames for Mitigating Social Problems: The Institutional Work Behind the Technocratic Antidoping System

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Abstract

Although the heavily expanded technocratic doping test system has failed to detect the most spectacular cases of performance enhancement and to eradicate doping as social problem, it enjoys social fact quality. Research presented here argues that the taken-for-granted character of the technocratic test system represents a prime example of institutional work. The technocratic test system became institutionalized and maintained because the agendas of field actors converged around a field frame, enjoying cultural resonance and, at first, strong pragmatic viability. The specific methods of frame stabilization employed by actors interested in institutional maintenance served to stabilize unrealistic policy expectations. The article aims to support these ideas by analyzing the trajectory of antidoping in the International Olympic Committee (IOC) based on rich archival sources.

Keywords

field frames, institutional work, doping, International Olympic Committee, technocratic approach

Doping is making headlines again. After whistle-blowers revealed systematic doping practices, parts of the Russian team were suspended from the Olympic Games in Rio de Janeiro, 2016. Before, the sport world had seen major doping scandals, such as, revelations about East Germany's large-scale state doping program, the Festina scandal during the 1998 Tour de France, the Fuentes affair, and the fall of cycling idol Lance Armstrong (Dimeo, 2014). This article is motivated by fact that none of these scandals has been detected by the heavily expanded technocratic doping test system. Without denying that the test system has achieved some successes, these revelations about undetected misconduct indicate serious flaws of the test system. Whereas research on athletes' perception of the likelihood of detection by the test system are rare, some studies conducted among athletes suggest that the technocratic test system is met with distrust and frustration (Efverström, Bäckström, Ahmadi, & Hoff, 2016; Overbye, 2016). Furthermore, a number of studies suggest that the extent of doping is significantly higher than that found in the official testing statistics (de Hon, Kuipers, & van Bottenburg, 2015; Dimeo & Taylor, 2013; Pitsch, Emrich, & Klein, 2005; Pitsch, Maats, & Emrich, 2009; Striegel, Ulrich, & Simon, 2010). The working group on the "(in)effectiveness of testing" created by the World Anti-Doping Agency (WADA) concluded that the system was "not catching many cheats" and "that many are avoiding detection" (Ayotte, Parkinson, Pengilly, Ryan, & Pound, 2012, Appendix B, p. 1). However, strikingly, these flaws did not provoke debates about the raison d'être of the test system.

Rather, as Jedlicka and Hunt (2013) have convincingly argued, the technocratic approach to mitigate doping by using a sophisticated test system has assumed the quality of an unquestioned social fact, enjoying wide diffusion across organizations involved in antidoping policies. The current piece of research concurs with Jedlicka and Hunt (2013) but does not aim to trace policy diffusion and organizational isomorphism. In contrast, we aim to explore how technocratic antidoping policies could assume such a taken-for-granted status that they continue to become radicalized even in face of apparent efficacy problems. To do so, three historical episodes critical for the institutionalization and maintenance of the technocratic test system are examined. Although the account covers only the period until the creation WADA in 1999, its insights on the strategies used for justifying and

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maintaining technocratic antidoping policies might be valid for understanding current institutional persistence.

The present account argues that the institutionalization of the technocratic test system has resulted from the deliberate institutional work of interested actors. These actors, mostly interested professionals, developed and established a specific technocratic field frame (Lounsbury, Ventresca, & Hirsch, 2003), which, following Henne (2009, 2013), can be described as "moral technopreneuralism," that is, the belief that doping represents a serious social problem, which can be eradicated by creating a technology-based detection regime. When the technocratic promise failed to materialize, actors interested in institutional maintenance engaged in creative efforts to refine and immunize the field frame. Thus, this account's innovative contribution to doping research lies in tracing how technocratic antidoping policies have assumed taken-for-granted character and in demonstrating the relevance of institutional work. The strategies of institutional maintenance employed by different actors nurtured unrealistic policy ambitions and planted the seeds for a further radicalization of "moral technopreneuralism." Demonstrating how actors concealed, edited, and reframed evidence on efficacy problems might serve to inspire a more thorough reflection on antidoping policies.

The account represents a theory-driven historical analysis of the antidoping policies of the International Olympic Committee (IOC). The analysis aims to make evident how technocratic antidoping policies first emerged as a political construction endogenous to a field of actors and how unfavorable evidence on policy failures was edited and selectively interpreted.

Institutional Work and Field Frames

Jedlicka and Hunt (2013) have made a strong claim that the technocratic antidoping system represents almost a textbook example of an institutionalized practice, which is treated as unquestioned social fact (Barley & Tolbert, 1997; Zucker, 1987). Jedlicka and Hunt (2013) support this argument by demonstrating how technocratic antidoping policies have diffused across international organizations addressing doping issues, which resulted in institutional isomorphism. The current piece of research aims to go beyond characterizing the technocratic antidoping system as a social fact and examines how the technocratic antidoping system has achieved such a taken-for-granted status. Therefore, the account presented here builds on recent neo-institutionalist attempts to contribute to the understanding of origins, processes, and undoing of institutionalization (Hasselbladh & Kallinikos, 2000).

Thus, to explain the institutionalization and maintenance of an ineffective technocratic solution to a social problem, an institutional work approach (Lawrence & Suddaby, 2006; Lawrence, Suddaby, & Leca, 2009) is employed. This approach focuses on "purposive actions carried out by individual and collective actors to create, maintain, and disrupt institutions" (Lawrence, Suddaby, & Leca, 2011, p. 25). Hence, institutional work aims to generate deeper insights into institutional dynamics by emphasizing the role of deliberate agency. In contrast to DiMaggio's (1988) concept of "institutional entrepreneurs," the institutional work approach tries to analyze institutional change without relying on an overwhelmingly dominant impact of institutions and on some actors as powerful, heroic figures (Lawrence et al., 2011, p. 3).

Hence, the approach stresses the awareness, skill, and reflexivity of individual and collective actors, understands institutions as constituted in the conscious actions of individual and collective actors, and interprets action as practice. Accordingly, agency is framed as "ongoing activity whereby actors reflect on and strategically operate within the institutional context where they are embedded" (Lawrence et al., 2011, p. 55). Building on Emirbayer and Mische (1998), institutional work emphasizes the presence of intentionality even in habitual actions (Lawrence et al., 2009). Moreover, as agency is perceived as distributed (Lawrence & Suddaby, 2006, p. 217) institutional processes are fragile, unpredictable, and political in nature (Malsch & Gendron, 2013). By implication, distinct actors have to contribute to institutional change (Lawrence et al., 2011, p. 55), and institutionalization might not succeed without actors intervening strategically (Battilana, Bernhard, & Boxenbaum, 2009).

For the purposes pursued here is relevant that the institutional work approach has refocused research from accomplishments to activities and extends the research agenda beyond institutional creation to the rest of the institutional life cycle (Hwang & Colyvas, 2011). In particular, the shift away from the characterization of institutions as self-reproducing has inspired interest in processes of institutional maintenance (Currie, Lockett, Finn, Martin, & Waring, 2012; Lok & de Rond, 2013; Micelotta & Washington, 2013).

Actors employ different forms of institutional work. According to the much-cited classification of Perkman and Spicer (2008), three broad categories of institutional work can be distinguished. Political work is directed at influencing the development of rules and regulations to anchor an institution within the wider social system. Technical work involves designing frameworks that suggest, recommend, or prescribe certain courses of action. Cultural work aims to anchor the institutional project within a broader discourse by relating it to the belief systems and social values. Thus, the institutional work approach understands institutional processes as political in nature and allows tracing how institutions are dynamically adapted in response to the changing agendas of relevant field actors.

Here it is suggested that the institutional work approach could benefit substantially from adopting ideas of the field frame concept (Lounsbury et al., 2003). Field frames represent "political constructions that provide order and meaning

to fields of activity by creating a status ordering for practices that deem some practices as more appropriate than others" (Lounsbury et al., 2003, pp. 77-78). Field frames comprise the technical, legal, or market standards that define the normal modes of operation within a specific field. Field frames are understood as "endogenous to field of actors and subject to challenge and modification" (Lounsbury et al., 2003, p. 72). By emphasizing the political and technical character of field frames, the concept appears to cut across the categories of political, technical, and cultural work. However, the focus on the shaping of meaning systems links the field frame concept stronger to cultural work.

The concept builds on framing approaches within social movement research, examining how social movements mobilize support for their political projects (Benford & Snow, 2000; Snow & Benford, 1988). The framing perspective aims to avoid reifying ideology by defining a frame as "interpretative schemata that simplifies and condenses the 'world out there' by selectively punctuating and encoding objects, situations, events, experiences, and sequences of actions" (Snow & Benford, 1992, p. 137). Moreover, framing perspective emphasizes "the struggle over the production of mobilizing and counter mobilizing ideas and meanings" (Benford & Snow, 2000, p. 613). Framing research allows also for a better understanding of the cultural work performed by actors pursuing institutional projects. Neoinstitutionalist research has concentrated on cognitive processes, that is, "theorizing" as "self-conscious development and specification of abstract categories and the formulation of patterned relationships such as chains of cause and effect" (Strang & Meyer, 1993, p. 491). As theorizations justify an abstract solution and render ideas into understandable and compelling formats (Strang & Meyer, 1993, p. 500), they are an important prerequisite for institutionalization (den Hond & de Bakker, 2007). However, social movement research suggests that theorizing represents only a subprocess of framing activities necessary for institutionalization. According to social movement research, successful activists not only have to perform "prognostic framing," that is, to suggest solutions, strategies, and tactics to a social problem, which can be equaled with "theorizing," but also have to provide "diagnostic framing," that is, a description of a social problem and its seriousness, as well as "motivational framing," which presents moral justifications for actions (Snow & Benford, 1988). In sum, the field frame approach emphasizes that institutional entrepreneurs have to engage themselves in broader advocacy activities (den Hond & de Bakker, 2007; Perkman & Spicer, 2008).

Furthermore, the framing approach provides the conceptual tools for developing a more political theory of institutional projects by emphasizing "frame resonance" (Snow & Benford, 1988; R. H. Williams, 2004). Thus, frames have to find resonance in a specific situational "political opportunity structure," which consist of relatively stable aspects, such as, cultural traditions and institutional agendas, and more volatile elements, such as public policy, political discourse, and elite alignment (Gamson & Meyer, 1996). The political opportunity structure is not a fixed external constraint but can be changed by activists (Tarrow, 1993).

Institutional work, as well as framing research, calls researcher's attention to the set of relevant field actors and their changing agendas. Institutionalist scholars have strongly focused on professions as key agents of institutional change as professions are desperate to create demand for expertise and services (Abbott, 1988; Muzio, Brock, & Suddaby, 2013; Scott, 2009; Suddaby & Viale, 2011). However, field-level change by professions has to be understood as "a series of reciprocal and mutual projects between professions and other powerful actors" (Suddaby & Viale, 2011, p. 427). Accordingly, the agendas and logics of these actors have to be taken into account (Oliver, 1991) as successful resource mobilization depends upon an infrastructure of pre-existing networks, associations, and organizations facilitating collective action as well as upon broader systems of meaning and discourse (Lounsbury et al., 2003, p. 76).

Finally, the idea of field frames as endogenous to a field of actors implies a more dynamic view on institutional projects by stressing the plasticity of field frames. This insight is of particular relevance when the field transforming character of frame institutionalization is considered. Once certain practices are institutionalized, some actors will develop a vested interest in institutional maintenance and might develop different strategies, such as, institutional "repair work" (Micelotta & Washington, 2013). Yet, following the insights of social movement research, here it is argued that strategies of institutional maintenance involve active and creative efforts of frame editing and modification to restore frame resonance. Figure 1, which is inspired by Goretzki, Strauss, and Weber (2013), depicts the key elements of the theoretical approach.

Research Design

The institutional work approach contains an inherent element of historical process within it as it focuses on activities rather than reified outcomes. Historical methods avoid functionalism because institutions and organizations are understood as outcomes of complex causal processes (Suddaby, Foster, & Mills, 2013). Accordingly, techniques of process research (Langley, 2009) are employed, which have been characterized as "process-tracing" (Beach & Pedersen, 2013).

Process tracing tries to provide evidence on the presence or absence of certain social mechanisms (Tilly, 2015). A mechanism-based explanation aims only at modest ends, that is, the "selective explanation of salient features of a historical episode by means of partial causal analogies" (Tilly, 2015, p. 13). As historically embedded search for causes, process tracing breaks complex sequences into events and singles out and describes a specific robust mechanism (Tilly,

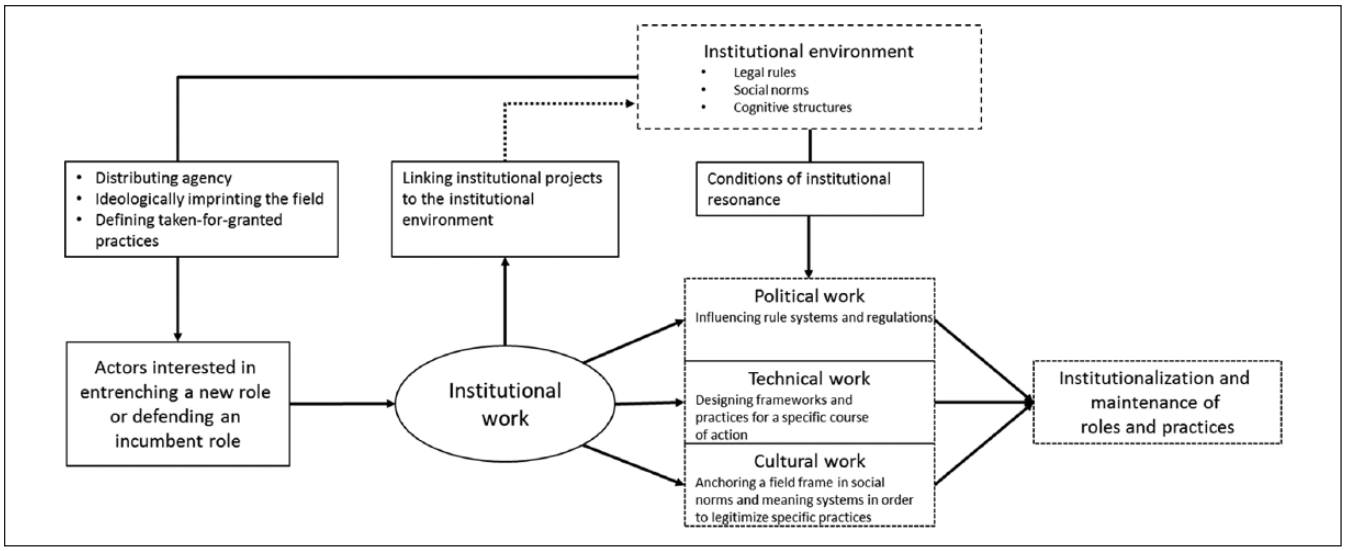

Figure 1. Institutional work and the institutionalization of roles and practices.
Source. The graph is inspired by Goretzki, Strauss, and Weber (2013).

2015, p. 140). Accordingly, the aim is to provide a theoretically guided account of institutional dynamics or analytically structured history (Rowlinson, Hassard, & Decker, 2014).

However, process research faces specific methodological challenges, in particular, when it comes to define meaningful boundaries in the empirical material (Micelotta & Washington, 2013, p. 1144). Actually, scholars of the history of antidoping have emphasized serious problems in sampling material due to the fragmented character of the organizational field (Hunt, 2011, p. 3; Wagner & Pedersen, 2014, p. 163). As the responsibility for antidoping policies has been dispersed across a broad range of private and public organizations, it is difficult to identify all relevant actors. Thus, to deal with the problem of boundary definition, the study focuses on the antidoping policies of the IOC and its Medical Commission (MC), which were key actors in global antidoping. Moreover, three key episodes in the history of the antidoping policy are studied: (a) the institutionalization of a technocratic field frame in the 1960s and possible breakdown episodes (Lok & de Rond, 2013), (b) the dynamic reinterpretation of the field frame in the 1970s, and (c) the maintenance of the field frame despite a serious efficacy crisis in the 1980s, which finally culminated in the creation of WADA in 1999. As the IOC has imposed a 30-year embargo for accessing its archives, later episodes were not examined.

As within-case inference focuses on the observable manifestations of social mechanisms (Beach & Pedersen, 2013, pp. 76-77), the within-case studies trace to what extent framing advocacy activities performed by relevant field actors can be linked to persistent field frame resonance. As the account relies on archival data, its validity might appear questionable as "the same events may give rise to multiple accounts" (Langley, 2009, p. 424). As a matter of fact, the truth claim of a narrative cannot be assessed from within the narrative itself (Büthe, 2002). However, the narrative presented is insofar verifiable as it is true to the sequence of events, actor moves, and institutional outcomes and relies on a rich collection of primary sources. Moreover, the efficacy of the framing mechanisms referred to has been demonstrated before.

Data Sources

The study relies strongly on IOC archival sources. Whereas the IOC Session represents the supreme body within the IOC, the true locations of power are the President and the Executive Board (EB), which are entitled to create commissions (Chappelet & Kübler-Mabbott, 2008). These commissions can be important bastions of power enjoying substantial policy discretion (Forster & Pope, 2004, pp. 113-114). Accordingly, the MC was primarily responsible for drafting the IOC's antidoping policies. Like other organizations, the IOC has imposed a 30-year embargo on the use of its archives, which unfortunately limits the historical scope of the analyses presented here. Due to the embargo, the Minutes of the IOC Executive Board have been analyzed until the year 1980 and the Minutes of the Medical Commission until the year 1989. The Minutes of the Session have been analyzed until the foundation of WADA in 1999. Whereas the MC minutes are no verbatim records of extensive debates, they document which issues were discussed and on which arguments decisions were reached. However, the exclusive use of archival material implies inevitably some limitations. Archival records do hardly present precise and detailed accounts of organizational processes. Yet, archival data "are particularly suitable for tracing event

chronologies, meanings, and discourses over long or very long periods of time" (Langley, Smallman, Tsoukas, & Van de Ven, 2013, p. 6). Thus, the archival sources analyzed here allow to trace MC's efforts to establish and maintain a favorable field frame in response to different challenges the IOC faced with regard to doping.

Moreover, the MC sources provided the base for a "snowball sampling" of additional sources based on incidents and actors mentioned in the MC sources. These include, first and foremost, scientific publications of influential MC members, such as, Arnold Beckett, Albert Dirix, and Ludwig Prokop. Moreover, well-crafted secondary accounts of doping history have been consulted (Beamish & Ritchie, 2006; Brewer, 2002; Dimeo, 2007; Henne, 2009, 2013; Hoberman, 1992, 2002, 2005; Houlihan, 2002; Hunt, 2011; Mignon, 2003; Stokvis, 2003; Waddington, 1996; Waddington & Smith, 2009; Wrynn, 2004; Yesalis, Kopstein, & Bahrke, 2001).

Data Analysis

Data analysis involved an iterative procedure moving between theory, constructs, and data (Miles & Huberman, 1994). The process tracing approach employed proceeded as follows. First, a descriptive narrative was conducted for each episode, which started from the doping challenges the IOC, in particular, the MC felt forced to respond to were identified. Then, it was traced which actors contributed to the construction of these challenges and which solutions these actors proposed. Subsequently, the responses of the IOC, in particular, the MC to these challenges were examined. The descriptive narratives were intensely discussed by both authors to identify key events, key actors, institutional work performed, and the relationships between them. In a second step, the analytical narrative was constructed by focusing on the relevant context, that is, developments in performance enhancement as well as the agendas of key actors. Then, framing activities of key actors were identified. Finally, the narrative has been organized following the rationale to "construct relevant, verifiable causal stories" (Tilly, 1997, p. 50) in the form of coherent sequences of motivated actions (Aminzade, 1992, p. 452).

The Organizational Field: Distributed Agency and Ideological Imprints

Although the institutional work approach aims to re-establish agency in neo-institutionalist reasoning, it tries to avoid depicting actors as heroic institutional entrepreneurs (Lawrence et al., 2011, p. 3). Institutional work is embedded and framed as distributed. Moreover, the field frame concept serves to emphasize the political opportunity structure and conditions of frame resonance determined by the institutional context. Accordingly, the organizational field of antidoping has to be sketched out.

DiMaggio and Powell (1983) defined an organizational field as sets of organizations constituting an area of institutional life, that is, "key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products" (pp. 148-149). Subsequent research has more strongly emphasized cultural elements (Scott, 2008, p. 186), which is in particular relevant in sport due to legacy of amateur ideology.

Strong Imprints of Amateur Ideology But Limited Governance Capacities: The IOC

Amateur ideology originated in the English upper class and served as a means of self-definition of the emerging middle classes drawing lines of social demarcation (Riess, 1994; Vamplew, 1988). Thus, amateurism has been both a system of status and a code of practice. As code of practice, amateurism underpins much physical education as amateur sport was supposed to teach important values, such as, fairness and chivalry, discipline, and moderation. In the light of amateurism, sports is about playing the game without any purpose other than playing for play's sake. Hence, as amateurs were expected not to take the game too seriously and to practice moderation, the question of how much preparation for competitions became crucial (Heggie, 2011, pp. 38-40). Therefore, the objection to use stimulants became part of amateurism by the end of the 19th century before it was slowly formalized and turned into the most persistent legacy of amateurism (Gleaves & Llewellyn, 2014).

The IOC was heavily "imprinted" by amateurism as the IOC's founding father, Baron Pierre de Coubertin, wanted to appeal to a skeptical British audience (Guttmann, 2002, pp. 12-13). Olympism was presented as "religio athletae," as

> the conception of a strong muscular culture supported not only by a chivalrous spirit, which you so elegantly call here "fair play" but also by some notion of aesthetics, about the cult of something which is beautiful and graceful. (Massard, 1987, p. 21)

As a dedicated amateur body, the IOC ruled as early as 1938 that doped athletes "should not be allowed to participate in amateur meetings or in the Olympic Games" (Session, March 16, 1938, p. 20). The ban lacked enforcement mechanisms as the governance capacities of the IOC were very limited. The IOC represented a19th-century gentlemen's club relying on volunteer work and lacking medical expertise (Stokvis, 2003; Wrynn, 2004).

Regarding the political opportunity structure for the IOC to act as regulator, it is important to note that international sport governance has always been fragmented and shaped by multiple organizational rivalries (Chappelet & Kübler-Mabbott, 2008). Thus, the IOC's rule only applied to the Olympics, that is, to a single sport event for some amateur sports. The distinct amateur sports represented in the

Table 1. Biographical Background Information on Antidoping Pioneers.

Ludwig Prokop (1920-2016)
Ludwig Prokop was a former athlete and started working as sport physician at the University of Vienna in 1946. Prokop founded the Austrian Association of Sport Physicians. After serving as doctor of the Austrian Olympic team in 1952 and observing doping practices, Prokop became one of the most visible antidoping activists and most prolific writers on doping in the 1950s and 1960s. Prokop became member of the IOC's Medical Commission in 1967, member of the Medical Advisory Panel of the International Association of Athletics Federations (IAAF) in 1970, and finally president of Fédération Internationale de Médecine du Sport (FIMS) in 1976.
Albert Dirix (1914-1999)
When serving as team doctor of the Belgian Olympic team in 1956, Dirix observed doping practices. In the 1960s, Dirix published several works on doping. In 1964, Dirix organized the first unofficial doping tests at the Olympics and implemented doping tests in Belgian cycling. Dirix served as member of the Medical Commission of the Union Cycliste Internationale (UCI), member of the IOC's Medical Commission, and secretary of the subcommission for Doping and Biochemistry. Moreover, Dirix was vice-president of the Belgian NOC.
Arnold Beckett (1920-2010)
Arnold Beckett was pharmacologists and was, together with Manfred Donike until the 1990s, one of the leading doping analytics. Beckett was a pioneer in paper chromatography and developed tests for amphetamines and anabolic steroids. He implemented first doping tests during the Tour of Britain in 1965 and during the FIFA World Cup in 1966. Beckett became member of the IOC's Medical Commission, the IAAF Medical Advisory Panel 1970, and the IAAF Doping Working Group.

Note. IOC = International Olympic Committee; NOC = National Olympic Committee; FIFA = Fédération Internationale de Football Association.

Olympics were governed by the international sport federations (IFs), which insisted on their regulatory autonomy. Some IFs with ties to professional sports such as the Union Cycliste Internationale (UCI) or the Fédération Internationale de Football Association (FIFA) opposed regulatory harmonization (Brewer, 2002). Even after the IOC had negotiated a "Medical Code" with the IFs as base for harmonization in 1994, many IFs refused to harmonize definitions and sanctions (e.g., Session, July 15-18, 1996, Appendix 8; Session, June 17-20, 1999, p. 11).

In addition to the rivalry between the IOC and the IFs, the IOC's relationship to the cities hosting the Games can be complex (see Chappelet & Kübler-Mabbott, 2008). Thus, the archival sources show that in previous periods, the IOC had to negotiate the implementation of antidoping policies with the host cities. The host cities tried to avoid costly antidoping measures. In particular Los Angeles was able to cut down on antidoping efforts (Krieger, 2016, pp. 240-56).

The Ambiguous Role of Public Authorities

Public authorities have played a highly ambiguous role in doping history. Sport's politicization, that is, "the use of high-performance sport for identity politics pursued by state governments" (Meier & Reinold, 2013, p. 1353), accounted to a considerable extent for the medicalization of modern sports and paralyzed antidoping efforts (Hunt, 2011). The governments' interest in high performance sport as vehicle for identity politics implied also that the IOC could not trust on their support for far-reaching antidoping initiatives exceeding the IOC's limited jurisdiction.

However, as governments represent complex organizations pursuing contradictory agendas, some government branches were also dedicated to amateurism and its pedagogical virtues and became increasingly concerned about health dangers in sport. Thus, although governments accepted the "autonomy of sport"-doctrine according to which sport is only subject to self-regulation (Chappelet, 2010), the threat of public intervention against self-regulatory failures started materializing in the early 1960s when the Council of Europe (CoE) and several governments started first antidoping efforts. Concerns about the decay of amateur values within the Olympic movement even inspired attempts to turn the United Nations Educational, Scientific, and Cultural Organization (UNESCO) into the supreme regulator of international sports (State Office for Sport and Youth Work, 1952). Whereas such ideas did not materialize, the ambiguous role of governments as demander and obstacle of stricter antidoping policies contributed further to the fragmented character of the organizational field.

Professionals in Search of Demand for Their Expertise: Sport Physicians

Until the 1950s, sport physicians were peripheral actors struggling for recognition (Heggie, 2011; Malcolm & Safai, 2012). Sports medicine is an inconsistent subprofession defined by the nature of its patients. Thus, sport physicians engaged in injury treatment, enhancement, and preventive medicine or "policing" (Heggie, 2011, p. 30). However, scientific "enhancement" was long rather the exemption (Hoberman, 1992; Waddington, 1996), the "trained athlete" emerged primarily in the 1960s (Mignon, 2003). Thus, before sport's politicization and professionalization turned enhancement into the most promising professional perspective (Hoberman, 2002; Waddington, 1996) influential pioneers of sports medicine who were convinced amateurs (Heggie, 2011, p. 62) advertised their expertise in "policing" (Table 1). Only later, biochemists such as Arnold Beckett and Manfred Donike would completely dominate antidoping policies.

Taken together, the organizational field of high performance sport provided strong ideological momentum for addressing doping as policy problem and imposed at the same time severe restrictions on agency dedicated to far-reaching policy approaches. The fragmentation of sport governance prevented a harmonization of antidoping regulations and a coordination of antidoping measures. In result, each sport governing body was confined to its own limited jurisdiction for developing antidoping measures. Accordingly, the IOC only enjoyed limited agency and has for long been more a rule maker than a strong rule enforcer (Stokvis, 2003).

Creating Resonance for a Technocratic Field Frame

Historical Context: The Transformation of High Performance Sports

After World War 2, innovations in performance enhancement and changes in international sport politics elevated doping into a major policy issue. Before a "cultural apartheid separated drug-free amateurs from professional athletes" (Hoberman, 2005, p. 183). However, as the range of performance-enhancing drugs expanded in the early 20th century, substance use became more popular (Hoberman, 1992). Amphetamines, which had served to fight fatigue during war, became a lifestyle drug (Hoberman, 2006). Their use in sport was particularly dangerous because athletes could waste their last physical reserves completely (Tanner, 1998).

Moreover, cold war politics transformed the Olympics after the Soviets decided to participate in 1952. The quest for athletic dominance (Hunt, 2007, p. 19), which violated amateur ideals (Doherty, 1960), resulted in sport's medicalization (Waddington, 1996). These trends culminated in East Germany's "state doping" (Franke & Berendonk, 1997) and also in the United States, "defeat in athletic competition to the communists had to be avoided at all costs [and] drugs were seen as protecting American values and freedoms" (Dimeo, 2007, p. 75).

However, some public authorities demanded also stricter antidoping efforts in response to spectacular doping incidents during cycling events. Thus, the CoE—until then most influential supranational organization of Western European governments—conducted expert meetings since 1963 (Weidemann, 1966), which resulted in demands for doping bans and tests (Dimeo, 2007, pp. 100-102). These activities gave rise to a "moral crusade" against doping (Hunt, Dimeo, & Jedlicka, 2012). Hence, the CoE resolution of 1967 stressed the "increasingly evil effects of certain practices known as 'doping' which jeopardise the health and dignity of those who resort to it" (Council of Europe, 1967, p. 1). Hence, France and Belgium released antidoping laws in 1965.

Professionals Trying to Create Demand for Their Services

With amateur ideology and public authorities providing motivational framing, some sport physicians sensed the opportunity to create demand for their services. To do so, they relied on a broad repertoire of activities, including expanding existing practices but also different framing activities.

The authority to decide on participation in sport was already a prerogative of doctors (Heggie, 2011, p. 18). After an Italian professional cyclist died during a race in 1949, such policing tasks were heavily expanded. The Italian law on the protection of health and sports of 1950 demanded professionals and amateurs to be annually examined by a physician of the Italian association of sport physicians (Federazione Medico Sportiva Italiana [FMSI]). The law also provided funding (Bliesener, 1959). The FMSI activities proved highly consequential as they evolved from simple searching procedures toward technocratic tests for detecting amphetamine use. In 1961, around 27% of professional footballers in Italy were found to be doped (Venerando & de Sio, 1965). Similar findings for cyclists resulted in the first antidoping convention by the Italian cycling union and the creation of the first doping laboratory in 1962 (Venerando, 1963). As follow-up tests indicated a decline of substance use, these activities provided a compelling theorization. The FMSI President predicted,

> The doping phenomenon is starting in Italia, in the soccer sector, towards very modest limits and we believe that within few years, it will only be an execrable remembrance. (Venerando, 1963, p. 982)

Soon doping tests became common in European cycling events (Venerando & de Sio, 1965). The technocratic approach gained further momentum when British pharmacologist Arnold Beckett developed a reliable mass spectrograph procedure for detecting amphetamines in urine samples in 1966. Beckett trialed the method during the Tour of Britain in 1965 and the FIFA World Cup in 1966 (Heggie, 2011, p. 112). Beckett claimed that the absence of positive results indicated that the tests worked as "sufficient deterrent to ensure that drugs were not being taken by players immediately before and during matches" (Beckett Report, 1966, p. 124).

The sport physicians also appealed to the moral sentiments of the amateur officials, who, confronted with sport's politicization and commercialization, "took a hardline, almost fundamentalist, position on ethics" and, since the 1950s, perceived doping not as a health issue but as "a serious moral crisis" (Dimeo, 2007, p. 93). Sport physicians amplified such concerns. The British Association of Sport Medics (BASM) condemned doping as "a form of moral deception" leading to a "downward path to moral

degradation" (J. G. P. Williams, 1963, p. 40). Doping was blamed on character weakness and inferiority complexes. Moreover, "the example of drug-taking by sports heroes can [. . .] have possibly a devastating effect on the record-crazy youth of today" (La Cava, 1962, p. 52).

Efforts to dramatize problem diagnoses included the presentation of undocumented figures on doping deaths in newspapers and journals by officials such as Paul André Challey-Bert, president of the International Cycling Union who spoke of 1,000 doping deaths in cycling (Der Spiegel, July 24, 1967, p. 88). Interestingly, Ludwig Prokop, MC member, presented a number of 100 doping deaths in cycling (1968, p. 2803). Finally, the death of Danish cyclist Knud Enemark Jensen from a heat stroke during the Rome Olympics in 1960 turned doping into an "Olympic problem" (Beamish & Ritchie, 2006) because antidoping activist Prokop, aware of the IOC's key role in antidoping policies, successfully promoted an interpretation of Jensen's death as doping incident to force the IOC into action (Møller, 2005).

Pressured to Act and Imitating Emerging Practices: The IOC

The IOC insisted long that doping issues "fall within the competence of recognized sport organization" (EB, February 9, 1963). Moreover, the IOC linked doping to professional sport "as a degraded form of sport" (Stokvis, 2003, p. 5). Thus, much of Avery Brundage's IOC presidency (1952-1972) was dedicated to the revival of amateurism (Guttmann, 2002, p. 110). In addition, Brundage was concerned about the IOC's regulatory capacities. He opposed direct involvement and demanded the IOC members "to speak of this matter [doping] in their respective countries" (Session, February 6-15, 1960, p. 10). Yet, after the Jensen incident, the EB decided in 1961 to "establish a system of control over doping" (EB, June 15, 1961).

The IOC screened public antidoping efforts but was skeptical about their invasive character (Bulletin, 1962). Moreover, the IOC realized the need for medical expertise. Given contradictory doping definitions, Brundage stated that "on the first instance the IOC should be informed as to what constitutes a doping" (Session, June 19-21, 1961, p. 3). Accordingly, the IOC created the doping subcommittee in 1962 chaired by IOC member Arthur Porritt (Wrynn, 2004). Yet, the subcommittee's competences were unclear and its work proceeded rather slowly (Wrynn, 2004, p. 218). Moreover, Porritt has been characterized as traditionalist (Dimeo, 2007, p. 98; Wrynn, 2004, pp. 219-20) as he preferred "a long-term education policy stressing the physical and moral aspects of the subject" (Porritt, 1965). Although the idea of surveillance and deterrence actually contradicted Olympism as a pedagogical doctrine (Christiansen, 2011), Porritt paved the way for a test system by proposing—"as short-term measures"—a formal doping ban and sanctions as well as athletes' submission to medical examination (Porritt, 1965). The EB implemented these proposals (EB, October 22, 1966, p. 11).

Although the IOC proceeded slowly, antidoping activists Prokop and Dirix privately conducted doping tests among cyclists during the Tokyo Olympics of 1964, provoking athletes' protests (Meuwly, 1966). Brundage first interpreted the tests as sign of the "degradation of a sport" (EB, October 16, 1964, p. 1) but received the activists after medical officers from Olympic teams supported the initiative (Dirix, 1978). Porritt's resignation in 1967 opened the opportunity for transforming the subcommittee into the much more professional MC by co-opting leading antidoping activists Beckett, Dirix, La Cava, and Prokop. When the IOC announced doping tests for the upcoming Grenoble and Mexico Games in 1968 (IOC Press Release, 1967), the technocratic field frame started becoming formally anchored in the Olympic rule system.

Field Frame Maintenance Work

Historical Context: The Field-Reconfiguring Character of Institutionalization

Institutionalization serves to reconfigure fields because actors benefiting from institutionalization solidify status by creating rule systems and claiming jurisdiction (Lawrence & Suddaby, 2006) and by populating the field with supporting institutions (Suddaby & Viale, 2011).

Accordingly, the new MC chair, Belgian Prince Alexandre de Merode worked to secure the MC's organizational status. Soon, size and complexity of doping made Brundage lose autocratic control over the MC (Wrynn, 2004, p. 215). The responsibility for drafting testing procedures was quickly left "entirely in the hands of the Commission" (EB, January 26-31, 1968, p. 1-2). Yet, although de Merode was committed to centralized regulatory control within the MC (EB, October 17, 1968, p. 6), Brundage tried to restrict the MC's role to that of an advisory body and to leave the tests to the IFs. Brundage was concerned about costs and the IOC's relationship with IFs and tried to protect the IOC "legally" (EB, October 17, 1968, p. 5). de Merode prevailed by framing antidoping activism as moral responsibility in accordance with the "Olympic Spirit" (Henne, 2009, p. 12; cf. MC Report to the Session, 1968). Eventually, the IFs were responsible for carrying out the tests, and the hosts had to provide the facilities but the MC supervised all proceedings (EB, June 5-9, 1969, p. 5). However, the MC's authority only covered the "period immediately preceding and following the Olympic Games" (EB, March 22-23, 1969).

Technological dynamics inspired the MC to increase the frequency of its meetings and served to consolidate the MC's status within the Olympic Charter (Henne, 2009, p. 18). As

suggested by de Merode (MC Minutes, April 5-6, p. 174), the Olympic Charter (1974, Rule 26) stated,

> Doping in the context of the Olympic Games constitutes the contravention of regulations specified by the IOC Medical Commission and approved as an integral part of the rules of the IOC.

The Munich Games of 1972 marked a decisive step for a supporting infrastructure as West Germany invested heavily in antidoping facilities. Manfred Donike, an innovator in gas chromatography and mass spectrometry, became a key actor in antidoping policies after taking over the facilities (Krüger et al., 2014). As tests became more costly, the MC promoted the creation of a global laboratory infrastructure (MC Proposal, 1980).

However, the technocratic field frame's efficacy was soon at stake as the test system was highly selective. Whereas stimulants were taken shortly before or during competitions, anabolic steroids were administered during training periods to increase the production of muscle tissue and required more sophisticated testing (Houlihan, 2002, pp. 71-72). During the 1968 Olympics, widespread anabolic steroids use was an open secret ("Around the National Olympic Committees," 1974; Hunt, 2011, p. 43; Ljungqvist, 1975) and became a precondition for staying competitive (Shuer, 1982). Notwithstanding contradictory empirical evidence on anabolic steroids (Haupt & Rovere, 1984; Taylor, 1991) and blatant misperceptions (Beamish & Ritchie, 2006; for example, Prokop, 1970), the IOC declared anabolic steroids to represent "'doping' from the Olympic viewpoint" already in 1967 (Session, May 6-8, 1967, p. 95). However, they were not included on the list of banned substances as they were not scientifically detectable yet.

Working on Frame Maintenance

The commission remained nevertheless committed to the theorization that doping tests exerted "a powerful deterrent effect" (Pan American Games Report, 1968). In addition, the MC stressed the objective and less invasive character of technocratic tests compared with other antidoping methods:

> [W]e did not think that the medical examination and the search for possible traces of injections should be recommended because of the numerous imperfections in these methods where the personal factor of the examining doctor is too large. Also we did not believe in having to search the runners' luggage or clothes as these methods are the responsibility of the police and not of the doctors. (Thiebault Report, 1968)

Yet, insisting on technical detectability posed soon a basic policy dilemma between the need for clear-cut evidence in face of "the large impact of disqualification and disgrace on a young athlete" (Pan American Games Report, 1968) and the ambition to sanction any illegitimate substance use. Finally, MC and EB opted for incontestable evidence and "to limit the list of prohibited drugs" (Thiebault Report, 1968; EB, September 30-October 6, 1968, p. 6).

Consequently, the test system became highly selective and inspired innovations in performance enhancement. Samples containing unidentifiable substances (Comments and Experiences, 1967; Hay Report, 1968) nurtured the warning that "lists of banned drugs are anachronistic and can never be completely" (Pan American Games Report, 1968). However, the MC concluded that

> a fundamental difference must be made between those substances which have theoretically to be considered as dope and those substances which will be controlled first in Grenoble and then in Mexico. Analeptics, respirotonics and cardiotonics belong without doubt to the dope substances which, for technical reasons, cannot be controlled. Thus, *when starting a fight against dope, it would appear appropriate to carry out a control on a relatively small number of substances or hormone groups. Moreover, it is imperative that the hormone and substance groups selected for control should be kept secret from the athletes and officials*. (Basis for Discussion, 1967; emphasis added)

Thus, the MC engaged in a dynamic reinterpretation of the field frame. Trust in scientific progress served to frame any efficacy problem as being only temporary implying the need for permanent efforts to perfect the control system.

Moreover, the MC concealed problems. The MC opted to protect the test system's credibility by keeping secret about technical details and criticized Beckett's publications on methods of detection (Hay Report, 1968). Furthermore, the MC assured the IOC Session that doping controls would "be carried out according to the most modern and appropriate methods" (Session, February 1-5, 1968, p. 46).

The anabolic steroid epidemic made policy failures more visible. As no test for anabolic steroids existed, they did not appear on the list of prohibited substances for the Mexico Games in 1968, creating tensions between the IOC and the IFs. When the Dutch Cycling Federation sanctioned a masseur for the use of anabolic steroids (Union Cycliste Internationale, Medical Commission, 1969), the IOC refused to ban the doped cyclist:

> [A]nabolisms can not be effectively measured, and, thus, to our regret, we have been unable to keep up this prohibition, as we were unable to prove the breach in a scientific way, and there could be no question of upholding the denouncement alone. (MC Minutes, January 25-26, 1969)

The MC confirmed this position when Brundage inquired about anabolic steroids tests for Munich (Session, September 11-18, 1971, p. 23). It was not before 1974 that British Raymond Brooks developed a test using urine samples. As the test failed to detect the most popular anabolic steroid, Stanozolol, de Merode euphemistically concluded that "the

Commission would take action only against major abuses and that only classes of compounds had to be detected" (MC Minutes, April 5-7, 1974). Consequently, the MC clearly realized that anabolic steroids rendered in-competition tests inadequate and that the technocratic approach required overcoming the fragmented sport governance:

> However, the Medical Commission hopes that the International Federations will follow their lead on banning the misuse of anabolic steroids and will introduce testing at various events held under their rules. Thus it would then be difficult for a competitor to misuse anabolic steroids for prolonged periods and yet to evade detection. (MC Minutes, April 5-7, 1974)

Therefore, the MC members refined the original theorization to include changes in sport governance and started publicly promoting "a very close collaborative effort" to ensure that "athletes can be tested randomly throughout the year" (Dirix, 1978).

Notwithstanding insufficient tests for anabolic steroids, the MC assured its audiences that the promises of the technocratic field frame would materialize. The IOC Session was told "that the progress of the scientific work proposed gives a complete guarantee as to the accuracy of the results can be obtained" (Report to the IOC Session, 1975). Moreover, the MC predicted that "the problem of doping with anabolic steroids will fall off in the same way as that of psychomotor stimulants" (Dugal, 1977a, p. 387). MC members permanently invoked the promise that the technocratic test system would eventually eradicate doping (de Mérode, 1979; Dugal, 1977a; Prokop, 1970, 1978).

Furthermore, test results were framed in a highly favorable way. After no positive tests at the Moscow Games of 1980, de Merode called them the "purest" Olympics provoking cynical comments (cf. Hunt, 2011, p. 67; Kamuti, 1984; Moorcroft, 1985). Donike's reanalyses indicated that anabolic steroids had been simply substituted with testosterone (MC Minutes, May 20-22, 1981). Moreover, the MC's measures were soon rendered inadequate as the infrastructure the MC had inspired to create was partly abused for preventing positive tests. After the German reunification, for example, it became clear that the GDR laboratory in Kreischa operated as an important part of the GDR's state-run doping program which pretested its own athletes to determine when to stop taking drugs and avoid detection in competitions abroad (Franke & Berendonk, 1997). Less sophisticated forms of pretesting had been carried out in other countries too (MC Minutes, August 12, 1984, p. 64; MC Minutes, February 24-26, 1987; Hunt, 2011; Riordan, 1993, pp. 68-70).

Further Institutionalization and Radicalization

Historical Context: Increasing Technological Gaps

Already during the anabolic steroid epidemic, new doping methods flooded sport. In 1976, the MC was informed about "blood doping" practices (Letter Norwegian National Olympic Committee [NOC] to MC, January 29, 1976), that is, blood transfusions enhancing the capacity to transport oxygen to the muscle (Houlihan, 2002, pp. 41-42). Moreover, athletes started using testosterone, cortisone, and adrenocorticotropin (MC Minutes, April 7-8, 1977), human chorionic gonatropin, human growth hormones (MC Minutes, Annex, February 5-19, 1984) and erythropoietin (MC Minutes, Annex, February 9-28, 1988). As these substances were naturally produced in the body, they required discriminating between exogenous administration and endogenous production (MC Minutes, February 6-7, 1982). Moreover, masking agents were employed (MC Minutes, April 5, 1974). The need for biochemical expertise became so demanding that the subcommission "Doping and Biochemistry" was created in which sport physicians were no longer present ("Olympic Wishes for 1981," December 1980, p. 687; see: Krieger, 2016, pp. 205-221). The split of the MC indicated a further institutionalization of the technocratic approach.

Defending the Field Frame

The internal context within the IOC had become less favorable for the MC. After the hosts of the Montreal and Lake Placid Games had complained about escalating antidoping costs (MC Minutes, June 18, 1978), IOC President Lord Killian demanded the MC "to reduce the costs to a minimum" (MC Minutes, June 17-18, 1978). The MC returned to motivational framing and deemed cutbacks in testing "criminal" (MC Minutes, June 17-18, 1978). However, under Juan Antonio Samaranch' IOC presidency (1980-2001), financial vitality became a top priority (Hunt, 2011, p. 106). Moreover, regardless of the MC's lobbying efforts (Letter de Merode to Samaranch, February 23, 1982), the IOC did not make out-of-competition tests and regulatory harmonization across the IFs a top priority even though the Session dealt regularly with the matter (e.g., Session, September 17-20, 1990, p. 9; February 5-6, 1992, p. 124; September 21-24, 1993, p. 14-15). Samaranch stated that "Harmonization was a necessary step, but the IF's autonomy would always be respected" (Session, July 15-18, 1996, p. 23).

Whereas the MC efforts were frustrated by an IOC leadership less enthusiastic about antidoping, the shifts in IOC priorities ultimately benefited the technocratic approach. They allowed blaming failures in antidoping on a lack of IOC commitment, which was highly consequential as public authorities increased pressure for regulatory harmonization. In 1984, the CoE recommended public authorities to support the implementation and enforcement of antidoping regulations and encouraged regulatory harmonization (Council of Europe, 1984). The initiative resulted in the first World Conference on doping in 1988, which yielded the proposal of a charter to be signed by sports authorities and national governments (Hunt, 2011, p. 83). In 1989, the Anti-Doping Convention of the Council of Europe (1989) demanded again regulatory harmonization and out-of-competition tests "on

an effective scale." After the spectacular doping case of Ben Johnson at the 1988 Seoul Olympics and several national doping scandals (Houlihan, 2002, pp. 160-165), sport bodies became perceived as hypocritical (Hunt, 2011, pp. 80-82).

Faced with new doping methods, the MC relied first on standard responses. The MC "condemned" blood doping as unethical but concluded that the application could not be controlled (MC Minutes, February 12, 1976). After the Dugal report (1977b), the MC resorted to doubting the effects of blood doping (MC Minutes, June 17, 1978). The MC's inactiveness continued until the Los Angeles Games (MC Minutes, February 6, 1984), when the successful U.S. cycling team was quite vocal about blood doping. When the U.S. NOC announced to abandon technical detectability for sanctioning blood doping (MC Minutes, February 18-19, 1985), the MC decided to ban blood doping "on unethical grounds" (MC Minutes, February 18-19, 1985; April 20-22, 1986). Although the Session questioned whether it was wise to create an unenforceable rule (Session, October 12-17, 1986, p. 66), more moral bans followed (cf. MC Minutes, April 10-11, 1985; MC Minutes, April 15-16, 1989). Whereas these decision invoked the motivational framing according to which doping was a moral evil, they rendered the technocratic approach absurd as moral bans had been typical for the pretechnocratic era. Moreover, de Merode showed signs of resignation. He told the Session in 1998 that "the aim was not to get rid of cheating but to fight against doping" and that "he did not think they would ever win but the important thing was that they should not lose" (IOC Session, February 2-5, 1998, p. 15).

However, the serious crisis of the technocratic field frame was hardly noticed by public authorities. In contrast, the IOC's creeping legitimacy crisis escalated after the Festina scandal during the Tour de France in 1998. The discovery of doping equipment during a custom inspection proved the "widespread, systematic and organised" character of doping and the failure of the incumbent antidoping regime (Hanstad, Smith, & Waddington, 2008, p. 228). The Festina scandal resulted in a serious legitimacy crisis of the IOC as the failure of the sport bodies were blamed on a lack of commitment resulting from conflicts of interest. After several governments threatened to take action, the IOC hosted the World Conference on Doping in Sport in Lausanne in 1999 to reinforce its authority. However, as traced in detail by Hanstad et al. (2008), the IOC failed to achieve its objectives. Several Western governments used the occasion to reap competences from the IOC and created the World Anti-Doping Agency (WADA) in 1999 (DeFrantz, 2008). WADA represents a public–private partnership funded and controlled by the sport movement and governments on the base of parity. WADA was given the mandate to harmonize antidoping regulations on a global scale, to develop standards for testing procedures, and to organize the data exchange between antidoping authorities. Whereas the IOC's antidoping regime was of pure private character, WADA has a solid base international law. The UNESCO International Convention against Doping in Sport represents the first global international treaty against doping in sport. Thus, as single purpose organization, WADA represents the most consequent institutionalization of technocratic antidoping with a much more aggressive mandate (Hunt, 2011, p. 87).

Discussion and Conclusion

The account presented here addresses the question why the technocratic approach to mitigate doping has been established and maintained despite efficacy failures. The answer offered here is that the technocratic field frame to antidoping represents a political construct endogenous to a diffuse organizational field. The institutionalization of this particular field frame succeeded because a group of professionals successfully aligned their project with broader systems of meaning, existing organizational structures, and the interest of powerful field actors. Amateur ideology provided motivational framing whilst innovations in performance enhancement and cold war politics nurtured a diagnosis of doping as serious social problem among the incumbent amateur elites (Gleaves & Llewellyn, 2014). At the same time, cold war politics made cooperation between governments with regard to doping less likely as East and West appeared to be willing to play a "dirty rivalry" game (Beamish & Ritchie, 2006; Dimeo, 2007).

The sport physicians provided a technical solution with a compelling theorization and strong pragmatic legitimacy. They heavily engaged in institutional work and employed a diverse range of framing strategies. They also developed a technocratic solution to the most urgent problem of stimulant abuse. With regard to evolution of sport medicine as profession, which has been traced by Waddington (1996) and Heggie (2011), the institutional work performed by antidoping activists among sport physicians appears as part of the efforts to legitimize a new medical subdiscipline. Ironically, due to the specific expertise needed, the profession that benefited most from the technocratic approach was biochemistry.

Seen from the IOC's perspective, the emerging technocratic field frame possessed a strong "pragmatic legitimacy" (den Hond & de Bakker, 2007) because the technocratic approach promised to eradicate doping within the limited governance capacities of the IOC. In addition, doping analytics performed in laboratories came with the advantage of legitimate knowledge production (Cunningham & Williams, 1992).

Moreover, once the technocratic field frame had become institutionalized, the organizational field was reconfigured and actors with a vested interest in field frame maintenance immunized the frame against evidence of policy failures. Policy failures were blamed on either temporary technological gaps or insufficient implementation due to lack of commitment and inadequate governance structures. This institutional maintenance work became highly consequential

Table 2. Institutional Work Performed in the Different Episodes.

Actor(s)	Category	Institutional work performed
Episode 1		
Public authorities	Political work	• Promoting high performance sport • Unwillingness to cooperate in antidoping • Releasing antidoping laws • Pressurizing the sport movement to mitigate doping
	Technical work	• None
	Cultural work	• Framing sport as decisive arena for the cold war • Motivational framing for moral crusade against doping • Diagnostic framing for moral crusade against doping
IOC	Political work	• Externalizing responsibility for doping to the IFs • Creating antidoping rules • Creating a doping subcommittee • Co-opting antidoping activists
	Technical work	• Imitating emerging practices
	Cultural work	• Denying the character of doping as Olympic problem
Sport physicians	Political work	• Influencing regulations at national level • Gaining access to sport policy making
	Technical work	• Designing and testing control procedures
	Cultural work	• Developing and theorizing a technocratic approach • Motivational framing for moral crusade against doping • Diagnostic framing for moral crusade against doping
Episode 2		
IOC	Political work	• Pressurizing on the MC to respond to technological challenges
	Technical work	• None
	Cultural work	• None
MC	Political work	• Claiming jurisdiction and creating rules • Populating the field with support institutions • Lobbying for changes in sport governance
	Technical work	• Designing new test procedures
	Cultural work	• Refining and dynamizing prognostic framing • Externalizing policy failures • Suppressing and editing contradictory evidence
Episode 3		
Public authorities	Political work	• Pressurizing the sport movement to mitigate doping • Harmonizing global antidoping policies • Claiming jurisdiction for antidoping policies
	Technical work	• None
	Cultural work	• Motivational framing for moral crusade against doping • Providing dramatic diagnostic framing for moral crusade against doping • Externalizing policy failures • Ignoring contradictory evidence
IOC	Political work	• Shifting policy priorities toward commercialization
	Technical work	• None
	Cultural work	• Downplaying doping as problem
MC	Political work	• Refining antidoping rules in favor of moral bans
	Technical work	• Designing new test procedures
	Cultural work	• Re-invoking motivational framing • Suppressing and editing contradictory evidence

Note. IOC = International Olympic Committee; IF = international sport federation; MC = Medical Commission.

when public authorities shifted agendas toward a stronger commitment to antidoping. As policy failures were attributed to a lack of commitment on behalf of the sport bodies, frame maintenance strategies resulted in policy radicalization. Table 2 provides a summary account of the institutional work performed by different actors.

As the article has been dedicated to a contextualized explanation, it mainly aimed to demonstrate the presence of well-known mechanisms of institutionalization:

1. The account has proven once more the importance of enabling conditions at field and organizational level

Table 3. List of Banned Substances and Methods at the Olympics.

Substance or method	1968	1972	1976	1980	1984	1988	1992	1996	2000
Stimulants	•	•	•	•	•	•	•	•	•
Narcotics	•	•	•	•	•	•	•	•	•
Anabolic steroids			•	•	•	•	•	•	•
Caffeine					•	•	•	•	•
Testosterone					•	•	•	•	•
Corticoids					•	•	•	•	•
Beta blocker					•	•	•	•	•
Diuretics						•	•	•	•
Blood doping						•	•	•	•
Peptide hormones							•	•	•

matter (Battilana et al., 2009), more precisely, strong cultural field frame resonance and pragmatic legitimacy in the light of diffuse and limited organizational jurisdictions.

2. Institutionalization creates not only actors with a strong interest in institutional maintenance but can also change field frame resonance in the end. Hence, the organizational agenda of the IOC was transformed after the considerable costs the technocratic antidoping system became evident. Ultimately, these shifts in organizational priorities made the IOC a victim of field frame immunization.
3. Institutional maintenance requires deliberate and creative efforts. The insight that certain groups of professionals employ social movement strategies is not new (Sine & Lee, 2009). However, institutional work has emphasized that institutional maintenance requires active efforts. Whereas previous research has focused on "repair work" (Micelotta & Washington, 2013), the case of antidoping points to the strategic and creative aspects of maintenance work and abandons the idea of field level institutions as totalizing social structures. Rather, the analysis reveals the plasticity of field level institutions. The MC refined the field frame until it was immunized and fueled a second order institutional effect as lacking commitment was blamed for policy failures. Hence, the analysis presented suggests that the taken-for-granted character of the current antidoping policies is the result of deliberate and creative frame advocacy and maintenance by interested actors, which are aligned with the changing agendas of relevant field actors.
4. Field frames are cognitive and normative structures. The technocratic approach in antidoping represents as much a cognitive as a normative field frame. Current antidoping policies reflect the long-lasting legacy of amateurism, which notwithstanding inherent vagueness and contradictions has provided the backbone of sport's ethics and, ultimately, the motivational framing for antidoping efforts. However, amateurism is itself a plastic concept. Objections against performance enhancement became an inseparable element of sport's ethics in the wake of the moral radicalization of the amateur movement, which was fueled by interest actors. Thus, sport physicians defined performance enhancement not as health but as moral problem creating strong motivational framing.

In sum, it is argued that the remarkable persistence of technocratic antidoping policies results from an immunized theorization and from the fact that the technocratic field frame relies on strong motivational framing. As radical morals have become institutionalized, any criticism of the technocratic test system can be easily discarded as moral heresy. Thus, although the technocratic test system failed to eradicate doping as social problem, it is maintained because the agendas of field actors converged around a field frame enjoying cultural resonance and (initially) strong pragmatic legitimacy. Moreover, the specific methods of frame stabilization employed serve to maintain unrealistic policy expectations.

Regarding antidoping policies, the analyses echo Henne's (2009, 2013) skepticism concerning the feasibility of solving a deep-seated social problem by a pure technocratic approach. Moreover, the historical study should have made clear that the taken-for-granted character of the technocratic approach is the product of deliberate institutional work by interested actors. Policy makers should be aware that the empirical evidence in support for the approach was either limited in scope or problematic. Thus, awareness for the institutional work behind current antidoping policies and the flaws in framing strategies might help to inspire critical thinking about policy alternatives.

The orthodox antidoping frame would narrate the trajectory of antidoping policy as driven by innovations in performance enhancement Accordingly, out-of-competition tests, whereabouts stipulations, and blood profiles were introduced in response to innovations in performance enhancement although these rules violate athletes' privacy. As consequence, the test

system also became much more costly. Whereas data for the Olympics are not available, costs for doping tests in Germany increased between 1975 and the mid-1990s at least tenfold (Reinold, 2016, pp. 248-250). Notwithstanding the expansion of the test system (Table 3), doping still exists. Hence, a technology-driven explanation cannot account for the escalating commitment in face of persistent policy failures.

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