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ABSTRACT

This study examines how influential institutional leaders in the Swiss watch industry responded to its precipitous decline after the introduction of quartz technology. Whereas prior work often portrays institutional entrepreneurs and guardians as holding opposing views of institutional change, we reveal how the complementarity and ongoing interactions between each set of actors served as a valuable resource for industry resilience and adaptation. Our primary data comprise of 136 qualitative interviews with industry executives, collectors, auction house operators, and other actors who played active roles as either institutional entrepreneurs or guardians in shaping the revitalization of the industry. We find these entrepreneurs and guardians initially espoused alternative strategic visions, but that their ongoing interactions over time provided technical and symbolic resources needed to feed the resilience of the industry. Such exchanges were facilitated through an eventual recognition of shared superordinate values, as well as mechanisms of tradition cultivation and conservation. Our findings offer contributions to research on institutional leadership, strategic contradiction, and industry evolution.

Keywords: institutional entrepreneurship, institutional guardianship, strategic contradiction, industry evolution, tradition, qualitative methods
“Since 1735 there has never been a quartz Blancpain watch. And there never will be.”
(Blancpain advertising slogan, 1983)

“Introducing Swatch. The New Wave in Swiss Watches.”
(Swatch advertising slogan, 1983)

The advertising slogans above are manifestations of two distinct strategic responses to a technological and environmental shock (Abernathy & Clark, 1985; Fligstein, 1991; Meyer, 1982) that upended the centuries-old institution of Swiss watchmaking, namely the introduction of quartz technology. In the first, Blancpain’s ad articulates CEO Jean-Claude Biver’s strategy to embrace and venerate the craft-based traditions of Swiss watchmaking. In the second, the Swatch ad envisions a “new wave” for the industry consistent with CEO Nicolas G. Hayek’s strategy of modernization. During the 1980s, Biver and Hayek were some of the most influential leaders in their field. Yet, their visions posed two alternative responses to cheaper Japanese quartz watches that had threatened the very existence of Swiss watchmaking.

Each leader’s vision for the industry reflected contrasting roles as institutional guardians and entrepreneurs (Battilana, Leca, & Boxenbaum, 2009; DeJordy, 2010). Theories of industry evolution, institutional change, and strategic renewal (e.g., Eggers & Kaplan, 2009; Grodal, 2017; Tushman & Anderson, 1986) suggest a seeming incompatibility of these alternative visions, one anchored in tradition and another embracing innovation, because radical environmental change often necessitates win/lose resolutions (e.g., Hiatt, Sine, & Tolbert, 2009; Pache & Santos, 2010). Similarly, institutional theory offers numerous examples of the replacement of one set of institutional arrangements with a new set envisioned and promoted by institutional entrepreneurs (Greenwood & Suddaby, 2006; Kellogg, 2009).

However, we found that the visible success of both visions throughout the 1980s created the conditions for a type of strategic contradiction (Smith & Tushman, 2005) in subsequent
decades that extended beyond the boundaries of any one organization. In this paper, we explore what happened when these visible and influential leaders simultaneously promoted seemingly contradictory visions for the Swiss watch industry, and how their interaction later became a source of adaptation and resilience across the entire field. Our study asks, “How do institutional leaders bound together by a common past negotiate a shared vision for an industry’s future in the wake of a radical technological and environmental shock?”

We explore this question through the context of Swiss watchmaking, with a particular focus on institutional leaders (e.g., Besharov & Khurana, 2015; Selznick, 1957), as well as other influential actors who played key roles in shaping how this mature field responded to the introduction of a discontinuous technology (e.g., Tripsas, 2008). Our setting is particularly interesting because at the close of our study window the Swiss watch industry accounted for 55 percent of global industry revenue and still carried the imprimatur of luxury and quality craftsmanship associated with ongoing mechanical watch production, despite the fact that the majority of watches exported from Switzerland utilized quartz technology (see Figures 1 and 2).

Thus the thriving Swiss watch industry did not emerge from the threat of quartz technology as Biver’s ideal of traditional mechanical purism. Nor could it be accurately characterized as having abandoned those values to reap the advantages of quartz technology through an exclusive focus on automation and production efficiencies that Hayek had initially envisioned would salvage the industry. In fact, we find it was the tension between these two divergent orientations, and the underlying perspectives on the meaning and values embodied in tradition, that built a foundation necessary for resurgence. Counterintuitively, these alternative perspectives of institutional leadership facilitated dialogue that avoided adopting a simple “either/or” strategic response (Smith, 2014). Instead, this interaction advocated for persistence
and preservation on one side and change and adaptation on the other, allowing for the revitalization of a field nearly devastated by technological change. The actors and individuals in our setting experienced this tension as friction that precipitated a negotiation, among other things, about the role and meaning of tradition as it related to the future of Swiss watchmaking.

Our contributions are threefold. First, we present findings that further our understanding of how history and tradition affect various forms of institutional work (Foster, Suddaby, Minkus, & Wiebe, 2011; Lawrence, Suddaby, & Leca, 2011). Whereas prior research on agency in institutions has focused on either change or stability (Battilana & D'Aunno, 2009; DeJordy, 2010; DiMaggio, 1988; Lawrence & Suddaby, 2006), we show how entrepreneurs and guardians engage history and tradition as aspects of institutional leadership. Second, we show that the interplay of alternative visions for an industry pursued by entrepreneurial and guardian-oriented leaders fosters creative abrasion and necessitates negotiation through “both/and” resolutions (Smith, 2014). Finally, we reveal how institutional leaders negotiate field boundaries as both barriers and junctures (Quick & Feldman, 2014), allowing for selective industry adaptation that promotes resilience while still protecting the integrity of the institution (Selznick, 1957).

INSTITUTIONAL LEADERSHIP AND RESPONSES TO ENVIRONMENTAL SHOCKS

Institutional theory, especially in its earlier incarnations (Hughes, 1936; Selznick, 1957), has recognized that institutions reflect the values manifest in the historical patterning of repeated action and social structures. To explore the different ways of responding to radical institutional change, we ground our story of the Swiss watch industry in the context of an ongoing conversation related to institutional leadership (e.g., Kraatz, 2009).
The extensive literature on institutional change is replete with accounts of how environmental shocks (Fligstein, 1991) or jolts (Meyer, 1982) can trigger radical shifts in institutional arrangements. In an early example, Hoffman (1999) documented how the creation of the Environmental Protection Agency (EPA) in the US effected significant change to the US chemical industry. Often, the shocks are exogenous to the institution. However, other work has examined the role of disruptive institutional work (Lawrence, Suddaby, & Leca, 2009) of embedded actors whose vision of the institution successfully disrupts the status quo (Rao, Monin, & Durand, 2003). Alternatively, research has examined how embedded actors, often elites, form a vision for change based on their assessment of the external environment and then work to shift the institution in anticipation of changing exogenous factors (Greenwood & Suddaby, 2006). In each case, actors – individuals or organizations – worked to realize a specific vision of the institution as a whole, envisioning a change effort larger than any one organization. Similarly, the central actors Biver and Hayek in our study engaged in a form of institutional leadership that transcended Selznick’s (1957) conception of organizations-as-institutions.

Selznick first introduced the idea of institutional leadership as something “beyond efficiency” (1957: 134) and “beyond organization” (1957: 137), because the leader infused values into the organization that transcended the need to gain efficiencies or to organize tasks. Although early institutional theory detailed the role of leaders in shaping and propagating institutions (Hughes, 1936), neo-institutionalism (DiMaggio & Powell, 1991) shifted the focus away from individual agency to extra-organizational structural forces in institutional propagation. More recently, the focus on microfoundations (Kellogg, 2009; Powell & Colyvas, 2008) and institutional work has re-kindled research into the role of “purposive action aimed at creating, maintaining, and disrupting institutions” (Lawrence & Suddaby, 2006: 216). Building
from Selznick’s work, while adapting it to institutional theory’s more recent intra-organizational focus we define institutional leadership as “work to realize a specific vision for an extra-organization social sphere (e.g., industry, profession) in order to promote or preserve specific values embedded in social structures.” Institutional leadership, in this sense, involves agency directed at institutional structures. Agency may be focused on changing structures to achieve some as-yet-unrealized values, as in the case of institutional entrepreneurship (Battilana et al., 2009), or preserving structures already infused with values perceived to be at risk or being lost, as in the case of institutional guardianship (DeJordy, 2010).

**Institutional Entrepreneurs**

Although originally criticized for a lack of attention to change and agency, a vibrant stream of neo-institutionalism has explored the notion of institutional entrepreneurship (Battilana, 2006; Battilana et al., 2009; see also DiMaggio, 1988). One of the earliest examples of this work, not labeled as such at the time, is Rao, Monin, and Durand’s (2003) examination of institutional change in Toque Ville. Exploring how elite chefs framed nouvelle cuisine as a desirable identity, they traced how these actors engaged in institutional work to lead a movement to supplant traditional French gastronomy. Other work has explored the role of peripheral players (Leblebici, Salancik, Copay, & King, 1991), cultural entrepreneurs (Lounsbury & Glynn, 2001), embedded change agents (Creed, DeJordy, & Lok, 2010), the creation of entirely new fields (Navis & Glynn, 2010), and how boundary work can contribute to institutional transformation (Zietsma & Lawrence, 2010). Common to all these studies is the actors’ focus on implementing and effecting change at a macro level, beyond their own local organizational context. Often the actors in these studies appear as heroic change agents capable of bending the “iron cage” of the
institutional arrangements to their will with power seemingly beyond the capacity of most institutional actors (Raffaelli & Glynn, 2015).

The mechanisms here, however, vary. In one stream of research closely aligned with DiMaggio’s (1999) early conception, elite actors change an institution from a central position. This was the case in Suddaby and Greenwood’s work on the Big Five accounting firms’ efforts to legitimate (Suddaby & Greenwood, 2005) and adopt multidisciplinary organizational forms (Greenwood & Suddaby, 2006). Here, the elite envision a future that is distinct from the past, even though existing arrangements served them well. Strategic planning, reflexivity, and quests for growth can all feed such processes of change. But these efforts tend to be about expanding, rather than radically replacing, institutional arrangements.

Alternatively, Leblebici and colleagues (1991) suggested that peripheral players may act more entrepreneurially because they are less embedded in the existing institutional context. Such lack of embeddedness, they argued, results in fewer sanctions from central players. However, less-embeddedness in an institutional context has implications for a peripheral actor’s ties to the history and historically infused values that gave rise to the existing institutional order. From this perspective, an outsider’s detachment from (or willingness to detach from) prior values and history can free them from some of the constraints associated with institutional embeddedness (Battilana & D'Aunno, 2009).

Even embedded change agents occupy a liminal space between multiple institutional contexts (Seo & Creed, 2002). In Creed and colleagues’ (2010) study of LGBT ministers in Protestant denominations, contradictions between their views of Christian values promoting inclusion and of denominational or societal historical marginalization triggered their claiming of space and support of institutional change. Although often cast as mythic heroes (Lawrence &
Suddaby, 2006; Lawrence et al., 2009; Powell & Colyvas, 2008), in each of these cases the entrepreneurial leader’s power to bring about change came, at least in part, from being unencumbered by attachment to traditional institutional arrangements.

**Institutional Guardians**

More recently a body of work has emerged exploring the role of agency in propagating institutions, or what Lawrence and Suddaby (2006) have labeled institutional maintenance. Some of this work has been uncovered in research examining institutional change, such as Maguire and Hardy’s (2009: 148) work in which they identified “defensive institutional work” in response to efforts to deinstitutionalize the use of DDT. Other work has brought institutional maintenance to the foreground (e.g., Dacin, Munir, & Tracey, 2010; DeJordy, 2010; Lok & De Rond, 2013). For example, DeJordy (2010) explored the role of various actors in preserving specific aspects of the US capital market after the crash of 1929, an exogenous shock to the institution, in what he termed “institutional guardianship.” Other work focusing directly on institutional maintenance includes Dacin, Munir, and Tracey’s (2010) study linking the performative aspects of rituals enacted at Cambridge University’s dining halls to maintaining and reinforcing the boundaries enshrined in the British class system. And Lok and De Rond (2013) examined the role of institutional custodians, who through rule enforcement and socialization practices, preserved and propagated their institutional arrangements. For the purpose of our study, we distinguish institutional custodianship from institutional guardianship. Whereas institutional custodianship works to propagate institutional arrangements by redressing breakdowns and deviations in localized practice (e.g., Dacin et al., 2010), guardianship works to preserve valued aspects of institutional arrangements in response to an institutional threat (e.g., systemic deinstitutionalization; see Maguire & Hardy, 2009).
As such, institutional guardians preserve aspects of their environment that they believe embody the values of the institution itself. Because institutions are pluralistic (Kraatz & Block, 2008), they can reflect multiple coexisting values; and different values may resonate more or less strongly with different inhabitants (Hallett & Ventresca, 2006; Smith & Tracey, 2016). While entrepreneurs show relative detachment from institutional arrangements as a whole, guardians show selective (or differentiated) attachment to aspects of what is ostensibly a shared history because of the pluralistic nature of institutions (DeJordy, 2010).

**Complexity and Contradictions in Institutional Leadership and Boundary Work**

Prior distinctions between entrepreneurs and guardians may oversimplify the nature of these actors and the institutional work in which they engage (Barin Cruz, Aguilar Delgado, Leca, & Gond, 2016; Creed et al., 2010). Our study attempts to address this gap. Common to conceptions of institutional entrepreneurs and guardians is their potential for institutional leadership (Selznick, 1957). Leaders provide a vision that focuses action, guides strategic objectives, and begets specific initiatives and actions. One role a vision plays across leaders, whether entrepreneurs or guardians, is to confront and make sense of contradiction. We extend prior work that has examined strategic contradiction and firm adaptation at the organizational level (e.g., Smith & Tushman, 2005), and we examine how such tensions affect inter-organizational level dynamics across the Swiss watchmaking industry.

As outlined above, leadership can be seen in all forms of institutional work (Lawrence & Suddaby, 2006). While extant research has introduced multiple forms of institutional work (e.g., Creed et al., 2010), research on boundary work has been an especially generative at recognizing how various forms of institutional work can coexist. Zietsma and Lawrence (2010) explored the role of boundary work in embodying entrepreneurial perspectives, such as breaching boundaries,
and guardianship perspectives, such as establishing and bolstering boundaries. They identified boundary work that “creat[ed] boundaries around experimentation spaces” (Zietsma & Lawrence, 2010: 202). Doing so preserved existing boundaries in the “non-experimental” areas, but simultaneously allowed for innovative interactions within them. Similarly, Quick and Feldman’s (2014: 673) work on “boundaries as junctures” contrasted more entrepreneurial takes on boundary work with a more guardian-oriented perspective of “boundaries as barriers.” In this work, boundaries represent points of contact that can be viewed as opportunities to de-emphasize or “decenter” the distinctions across them in various ways (boundaries as junctions) or to separate and divide unambiguously distinct audiences or perspectives (boundaries as barriers). We propose boundaries are important to institutional work insomuch as they reflect distinct values embedded in institutional arrangements. Boundary work reflects the management of compatibility or contradiction among different values. In preview of our findings, our two most visible leaders promoted distinct strategies, yet they did not present their underlying values as oppositional, but as “both/and” alternatives (Smith, 2014) that allowed for a more transformative resolution. We explore this tension further in our findings, after presenting our research methods.

METHODS

To address our research question we employed a nested case study design (Yin, 2008). Our goal was “theoretical extension,” an analytical method proven effective for “broadening the relevance of a particular concept or theoretical system to a range of empirical contexts other than those in which they were first developed or intended to be used” (Snow, Morrill, & Anderson, 2003: 187). We looked to extend existing theory on two forms of institutional leadership – guardianship and entrepreneurship – to examine how their interaction impacted a field attempting to respond to radical institutional and technological change. The embedding case is a
38-year historical analysis of the Swiss watch industry, starting with the introduction of quartz watch technology. Focusing on one industry with multiple actors and organizations facilitated the collection of rich data regarding the market conditions, interactions among participants, and development of new structures and processes. Given the industry’s historically secretive norms for sharing information with outsiders, we offer a unique view into its unexpected revitalization.

**Empirical Setting**

The field of Swiss watchmaking underwent a cycle from boom to decline to resurgence during the period of study. In the 1970s, Swiss watches accounted for 55 percent of the world’s export market (in revenue) but fell to roughly 30 percent the following decade, with a parallel decline in unit volume from producing 45 percent to 10 percent of the global supply over the same period. Insiders referred to the decline of the industry in the years following the introduction of quartz technology as “the quartz crisis,” which heralded the near demise of mechanical watches (Glasmeier, 2000). Yet, by 2008, Swiss watchmaking had resurged to again account for 55 percent of the export value in revenue globally (Donzé, 2011b; Raffaelli, 2018). Our study explores the dynamics of the Swiss watchmaking industry from 1970 through 2008. We bounded the study at the start by the introduction of the first quartz timepiece on the market in 1970, representing an environmental shock (Fligstein, 1991; Meyer, 1982) to the status quo that required the entire industry to respond (e.g., Hoffman, 1999). We concluded the study in 2008 because it marked the start of a global economic downturn that had an exogenous effect on industry performance extending beyond the scope of the study.

**Data**

We collected qualitative data from multiple organizations and actors within the watch industry. The primary data comprise 136 semi-structured interviews with Swiss watch
executives, industry experts, and other influential actors. These interviews elicited information about the industry’s evolution and response to the quartz crisis. Interviews with participants, selected based on their involvement in the industry spanning the 38 years of our study, focused on their perceptions of what occurred in the industry from their structural and temporal vantage points. Sampling was theoretical rather than random (Glaser & Strauss, 1999), ensuring that we collected data from individuals representing both institutional entrepreneurs and guardians. To identify a broad pool of influential people and companies we relied on two sources. First, one of the authors made multiple visits to the National Association of Watch and Clock Collectors (NAWCC), one of the largest horology archives in the world, and contacted the Federation of the Swiss Watch Industry, a private professional non-profit association with over 500 members representing over 90 percent of all Swiss watch manufacturers. Representatives from these two organizations provided a list of companies and individuals they believed were the most salient to our research. In addition to watch company executives, interviews included industry and union representatives, company historians, retailers, archivists, museum curators, fashion and luxury brand executives, auction house executives, heads of vintage collector associations, and Swiss government officials who were embedded in the industry through part or all of the study period. From this pool, in-depth interviews were conducted between 2010 and 2015. The average interview lasted 91 minutes. Twenty-nine percent (n=39) of the individuals interviewed started their career in the watch industry prior to 1990, 24 percent (n=34) started between 1990 and 2000, and the remaining 47 percent (n=63) joined the industry in 2000 or later.

We conducted several forms of in-depth field observation. To converse fluently with executives and watchmakers, the first author attended a watchmaking course at the NAWCC

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1 Horology is the science of measuring time.
School of Horology, visited Baselworld, the industry’s largest field-configuring event (Lampel & Meyer, 2008), and completed private tours of 9 Swiss watch factories. For one week, this author also embedded himself in the watch factory of institutional guardian Jean Claude Biver, obtaining unrestricted access to Biver and the company’s traditional mechanical watchmaking production processes. While at the company, the author interviewed long-time employees, mentors, business partners, and other industry actors who had worked directly with Biver, and with individuals who had reported to or worked closely with institutional entrepreneur Nicolas G. Hayek during the timeframe of this study.

Archival data allowed for triangulation to help identify commonalities and differences in findings across sources (Creswell, 2003). In addition to primary data, we gained access to an additional 27 interviews with Swiss watch CEOs conducted by TimeZone, a leading industry news source. These interviews appeared in print throughout the 38-year timeframe of our study and helped us check for possible recollection bias, as well as validate general trends found in the primary interview data.

Other archival sources included Swiss watch production and employment figures, government regulatory documents on “Swissness” trademark protection policies, influential historical accounts of the Swiss watchmaking industry, yearly industry certification standards, and auction house vintage watch prices. Most of these data were hand-collected from company and museum archives throughout Switzerland and the US. To account for some of the key exogenous factors identified by interviewees as potentially affecting the industry, we compiled longitudinal macroeconomic data on currency valuations, global household discretionary spending patterns, and several other important economic indicators.
Analytic Approach

We employed an analytic approach of abduction (Behfar & Okhuysen, 2018; Peirce, 1955), iterating between empirical data and established theoretical constructs for the purpose of facilitating “dialogue across fields and methods…to connote the dynamic processes by which theories emerge, change, and grow” (Snow et al., 2003: 185). The process consisted of several steps. First, we developed preliminary “thick” descriptive codes during our initial coding of the interview data (e.g., Smith, 2014: 1597). As theoretical themes emerged from the data, we began to familiarize ourselves with the constructs and mechanisms associated with institutional leadership in both forms (entrepreneurship and guardianship), as well as concepts related to field institutionalization and deinstitutionalization (Oliver, 1992; Scott, 2008a). This process involved the use of a content analysis package (NVivo 10) to organize and examine interview and archival data iteratively, constantly going back and forth between the data, existing theory, and emergent findings (Locke, 2001; Miles & Huberman, 1994). Doing so allowed us to generate a set of abstract and theoretical constructs linked to specific passages from interviews and archival sources through a set of nested codes. Specifically, we assigned passages to either preexisting theoretically identified codes or newly created first-order codes. These codes typically relied on language directly from (or very close to) the original source.

Second, we grouped our provisional first-order codes into broader themes and continued to categorize them theoretically. These theoretical categories helped us to identify variables of interest in a process best described as axial coding (Locke, 2001). Simultaneously, we compared descriptive evidence with the existing constructs and mechanisms identified from the literature. For example, our descriptive codes unveiled that several actors had formulated different visions for the field of Swiss watchmaking immediately following the introduction of quartz technology.
We began to code these distinctions and found these alternative visions were often associated with capability management and Swiss watchmaking traditions. Examining these differences led us back to theoretical work on institutional leadership, and eventually to distinctions between guardianship and entrepreneurship. We then noticed that, over time, some of the most influential leaders in our setting began to work in unison and with each other in a manner not fully theorized in prior work. This insight ultimately led us to concentrate our subsequent analysis on the mechanisms that facilitated interaction between institutional guardians and entrepreneurs over the 38-year period of the study. In a third iterative stage, we developed a conceptual framework that provided the basis for a theoretical model depicting how institutional entrepreneurs and guardians interacted to negotiate boundaries of field adaptation and industry resilience.

**FINDINGS**

Our findings are structured around a model of institutional leadership in response to a radical technological and environmental shock (see Figure 3). Starting from the top of the figure, we identify a first phase where various actors and organizations adopted alternative strategic orientations in reaction to the introduction of quartz watch technology. During a second phase, dual forms of leadership emerged (i.e., institutional guardianship and entrepreneurship) that articulated alternative visions for the field of Swiss watchmaking. The model illustrates how entrepreneurs and guardians came to appreciate that, despite their alternative visions, they held several superordinate values in common. This realization ushered in a subsequent third phase where actors began to negotiate and co-create new boundaries for the field. In this phase, we explicate how mechanisms of tradition conservation, tradition cultivation, and creative abrasion facilitated interactions between entrepreneurs and guardians that promoted field adaption and resilience. The model highlights each phase of this process alongside the relevant dates in the Swiss watchmaking industry, which we discuss in detail below.
Initial Strategic Orientations in Response to Technological Change: 1970s

During the 1970s’ quartz crisis, many of the practices, routines, and capabilities that had sustained over 250 years of Swiss watchmaking prowess were called into question (Landes, 1983). Low cost, highly accurate Japanese quartz technology had disproved a centuries-old axiom about watches: increased accuracy equaled higher cost (Trueb, 2005). According to a local analyst, “Swiss companies had failed to understand that the rules of the game had changed” (Breiding, 2013: 43). Firms began to debate whether existing capabilities associated with mechanical watchmaking should be dismantled in order for the field to survive. One senior executive, who had worked in several leading Swiss watch companies and as a foreign trade liaison for the industry during this period, explained the impact of the 1970s quartz crisis:

We saw ourselves on a pedestal for so long. When you said watches, everyone knew you meant Swiss, nothing else. No other country had really challenged us. Basically, watches meant Switzerland. The quartz crisis was really difficult. We didn't see it coming and we were so shocked by what happened. The fact that we had to lay off thousands of people, we were 90,000 and then we were 33,000, it was enormous. There was no future.

Initially, firms began to adopt strategic orientations that mirrored theoretical distinctions often associated with prospector and defender action (Fox-Wolfgramm, Boal, & Hunt, 1998; Hambrick, 1982). Prospector-oriented firms shifted their attention toward developing new technical capabilities and market opportunities associated with quartz manufacturing. One executive noted, “We realized everybody wanted quartz watches. Mechanical, hand-winding watches no longer had any interest. Wipe [mechanicals] off the map, we needed to readjust the business.” Alternatively, defender-oriented firms adopted a strategic orientation that focused on preserving the capabilities associated with mechanical watchmaking. Many of these firms
continued to compete directly with quartz watches based on established principles (e.g., improved precision, accuracy). Other defenders attempted to preserve the mechanical watch by competing on several new dimensions (e.g., status, craftsmanship, nostalgia). As the 1970s drew to an end, we noted two forms of leadership – institutional entrepreneurship and institutional guardianship – emerged in response to the ongoing quartz crisis. These leaders began to formulate alternative visions for the field of Swiss watchmaking in the decade that followed, explained below (see Table 1 for additional supporting data).

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Insert Table 1 About Here
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### The Emergence of Alternative Entrepreneurship and Guardianship Visions: 1980s

**Institutional entrepreneurship.** By the early 1980’s, the quartz crisis had reached its pinnacle. When asked to identify various actors responsible for influencing industry-level change during this period, every interviewee cited Nicolas G. Hayek. A Lebanese-born CEO of a management consultancy in Zurich, Hayek was hired by several Swiss banks to examine the failing watch companies in their portfolios that had become insolvent; the market for mechanical watches had become so dire that many companies were requesting additional bank loans to pay their employee salaries and bonuses. Hayek assumed the archetypical role of an institutional entrepreneur (Battilana et al., 2009), touting a vision of massive industry-level consolidation and restructuring that aimed to transform all of Swiss watchmaking.

Hayek aimed to expand the capabilities of the field beyond mechanical watch production. To do so, he proposed merging two of Switzerland’s largest watchmaking holding companies, ASUAG and SSIH, which owned several well-known Swiss brands (e.g., Omega, Tissot, Longines) and accounted for approximately half of all Swiss watch employment. After extending
bailout loans to watch companies for nearly a decade, banks were uninterested in overseeing a lengthy restructuring effort. However, Hayek believed in the industry’s growth potential and sensed he could deal with the banks. Defying the advice of most financial analysts, he entered into negotiations with the banks to purchase the dying holding companies himself (Breiding, 2013). After he orchestrated deals with over 30 different banks, the parties agreed to sell a majority share of ASUAG and SSIH to Hayek and forego some of their owed debt in exchange for shares in the new company. Hayek also invested much of his own personal capital in the deal (approximately SFr20m, USD$11m) and proved adept at raising additional funds from outside investors. He formed a new board of directors, composed of individuals who trusted his vision, and named the new holding company Société de Microélectronique et d’Horlogerie (SMH, later renamed “The Swatch Group” in 1998). The SMH name suggested Hayek’s intended focus on quartz “electronic” technology. He appointed Dr. Ernst Thomke, a well-known industry executive, CEO of SMH and tasked him with overseeing a transformation of the company’s manufacturing capabilities.

Hayek and Thomke’s vision for reinventing the Swiss watch industry began with reclaiming the mid- and low-end segments of the market that the Swiss had lost to Japanese quartz watches. To do so, they began to retool the Swiss manufacturing lines so SMH could produce quartz and mechanical movements\(^2\) at multiple price points. With support from the Swiss government, SMH would supply movements to the company’s existing brands, as well as to most of the remaining brands in Switzerland. According to interviews with several analysts, Hayek was convinced the Swiss had to rebuild the “base” of the industry, making low price quartz Swiss watches available to the masses. A former SMH employee said, “Thomke told us

\(^2\) A watch “movement” consists of the components that calculate the passage of time and make up the “guts” of a watch. Movements can either be mechanical or quartz (Moon, 2004).
we must do everything we can to recover from our loss in the [mechanical] market. We had to become more industrial and go into this electronic [quartz] system.”

SMH’s response was the Swatch watch, a quartz watch that would require significant investments in several novel forms of innovation that deviated from the norms of traditional mechanical watchmaking. In the late 1970s, Thomke had overseen the development of a quartz watch called the “Delirium,” which aimed to fulfill market demand for thinner watches. While the Delirium had been plagued with design challenges (e.g., its metal body was so thin it often bent when strapped on a wrist), the basic architecture laid the groundwork for the Swatch. He appointed two young engineers, Jacques Müller and Elmar Mock, to develop something similar, but encased in an inventive plastic body that would be sturdier and offer more design options to distinguish it from the aesthetically unpleasing Japanese quartz models. Within SMH, Mock and Müller were tasked with redefining the company’s capabilities to produce the Swatch. However, Mock was initially shunned by the company’s traditional mechanical watchmakers, recalling:

At that time the company was not in a very good situation economically, so it was like a referendum. Word was getting around about our project. But everyone was keeping their distance from us. Most of them said, “Those two, they will be thrown out of the company in six months. Anyone who works with that shit [quartz] technology, they have no chance.” But for me, the Swatch was an opportunity to give confidence back to the industry and restart it. How can we avoid making the same thing? How can we imagine?

Extensive interviews with Mock and colleagues revealed how prototyping designs and developing innovative technologies to support the advanced production methods for Swatch reduced production costs by 80 percent, used 55 percent fewer parts than the typical mechanical watch, and introduced a novel plastic injection molded case. The first Swatches rolled out across Europe and the U.S. in 1983, selling at prices low enough that consumers were encouraged to treat them as fashion accessories. The Swatch was advertised to convey the idea that consumers could buy a watch for every outfit or activity: “Swatch = second watch.”
The colorful plastic case designs shifted the focus of the Swiss watchmaking industry away from accuracy and towards fashion (Moon, 2004). In an unprecedented move within the low-end of the watch market, Hayek enlisted high-end department stores such as Bloomingdales to sell the Swatch. To raise awareness, he invested approximately 25 percent of the product’s overall budget on marketing, a percentage previously unheard of in the industry. The distribution network and market positioning were also quite different from those employed by Japanese watchmakers, who continued to sell their watches in drug stores and discount department stores.

By 1988, SMH had produced and sold 50 million Swatches. One former industry analyst stated, “Everybody was wearing a Swatch – the garbage picker and the bank president.” Swatch’s popularity and profitability injected liquidity back into SMH and confidence into the rest of the Swiss watch industry. Hayek and his team had proved SMH could produce quartz watches on an automated factory floor without extensive human assembly. In addition to espousing a vision for expanding the capabilities of the Swiss watch industry, Hayek had reframed the meaning of Swiss watchmaking’s most recent history to demonstrate that prior expertise in producing aesthetically pleasing watches could still be an asset when fused with the new quartz technology. Hayek had defied centuries of institutionalized mechanical watchmaking production norms in service of his entrepreneurial vision. One senior executive recalled its impact throughout Switzerland: “These [Swiss quartz] watches were cheap, they were fun, and they were precise. There was a lot of dust on the Swiss watch industry. The Swatch shook all that dust away. It was a revolution.” The Swatch convinced other Swiss brands they could compete directly with Japanese low-cost quartz watches. Other entrepreneurial Swiss leaders followed suit and began to release products like Tissot’s “Rock Watch” and Briel’s “Pareo,” which utilized quartz technology housed within fashion-forward designs.
Institutional guardianship. In 1983, the same year that Hayek formally launched the Swatch watch, Jean-Claude Biver purchased the rights to the dormant watch brand Blancpain, a company that had gone out of business prior to the quartz crisis because of poor management. Biver, a 33-year-old former Omega executive, purchased the rights to the Blancpain name for SFr16,000 (USD$9,000) with a friend and they relaunched the brand, heralding it as one of Switzerland’s oldest watch companies. In this regard, Biver adopted the role of an institutional guardian, motivated by a vision that aimed to preserve Swiss mechanical watchmaking’s history and manufacturing traditions. Biver noted, “Everyone believed the future was in quartz. They believed that if we reduced the price, we would sell more and more. I disagreed.” Instead, he offered a contrarian vision that claimed Blancpain would only make mechanical watches and proposed that the old Swiss mechanical watchmaking practices should be celebrated rather than abandoned. In an interview with a watch industry journalist (Friedberg, 1999), Biver reiterated his initial vision for Blancpain to be a “guardian” of Swiss mechanical watchmaking:

This is why we may consider Blancpain today as the guardian, the curator of the most marvelous culture, a true Swiss patrimony: the Art of traditional watchmaking. We wanted to give life to the fabulous heritage of the art of traditional watchmaking.

To symbolically preserve the meaning of Switzerland’s watchmaking history, Biver located his new company’s headquarters in an old farmhouse. Doing so evoked the beginnings of watchmaking in the region in the late 18th century when French watchmakers introduced the craft to peasant cow farmers whose idle hands proved exceptional at building watches during the cold winters. Biver wanted to reconnect his watchmakers with their ancestors who had helped found and eventually dominate the industry. Displaced watchmakers who had refused to adapt to quartz technology flooded Blancpain with job applications. While quartz producers like Hayek were attempting to expand output through factory automation, Biver limited supply of Blancpain
handcrafted watches to communicate the scarcity and exclusivity of the product. He personally delivered the early mechanical models to consumers so he could explain the painstaking work that had gone into each piece. Rather than release multiple collections, an industry norm, Blancpain produced only one model that focused on communicating the brand’s long-standing mechanical watchmaking heritage.

By the end of its first year, Blancpain had sold 97 watches and reported revenues of $75,000. Within five years, the company was selling 3,000 watches a year with $9.4 million in annual revenues. A CEO noted the importance of Biver’s role as guardian during this period: “Blancpain was a miracle. It was the first and only time I’d seen a traditional brand, in terms of product and look, with a young image. Suddenly, young people wanted to wear it. Biver made it fashionable to have a mechanical watch again. He built a community.”

In addition to Biver, our interviews revealed other guardians who emerged from the Swiss watch community in the wake of the quartz crisis. Mechanical watchmaking employees were especially influential. During a tour of the Zenith watch factory, we learned that it had nearly collapsed during the crisis. In 1975, the US-headquartered Zenith Radio Corporation purchased the company for its similar name and manufacturing space. Executives ordered all mechanical watchmaking to cease and mechanical watch manufacturing tools to be scrapped. Charles Vermot, a long-time employee, defied the order and hid the components of the El Primero chronograph (stopwatch) movement in an abandoned factory storeroom. According to the company’s historian, Vermot refused to accept that the tools and machinery that had defined his life’s work should be thrown out. A decade later the company changed hands and the new owners expressed interest in producing mechanical watches. Assuming they would have to invest in rebuilding the lost machinery and knowledge, they were surprised when the retired Vermot
returned and resurrected the tools he had saved in the old factory. As one of the few watchmakers in Switzerland with access to the old dyes and moulds, Zenith began to produce chronographs again and supplied the movement to other companies that had thrown out the technology. One executive stated, “It may be fair to say that the El Primero saved Zenith and parts of the Swiss watch industry. For a very long time [the movement] was the only one like it on the market.”

Watch collectors also played a critical guardianship role in preserving values associated with mechanical watchmaking. In the 1980s, a small group of collectors started purchasing timepieces at auction because they were concerned the legacy technology might soon vanish. Many paid above-anticipated market value at auction for these vintage pieces because they believed the mechanical watches held significant value. According to one auction house executive, these collectors were referred to as “the purebreds” because “they can take apart a movement themselves.” Similarly, the CEO of a mechanical watch company described these mechanical watch collectors as purists, noting the role they played as guardians by claiming, “If the purists did not exist, we probably wouldn’t be here today.” To ensure knowledge about traditional watchmaking did not disappear, some collectors began to self-publish books about mechanical watches and the various Swiss companies that had produced them. One such collector stated, “I was very into the history of watches. I wrote an unauthorized book that was considered the bible of Rolex.” Collectors also started to form interest groups around the world composed of members devoted to preserving the history and craft of mechanical watchmaking.

Together, the actions of Biver and other guardians helped crystalize a vision for the field that focused on maintaining the capabilities and knowledge associated with traditional Swiss mechanical watchmaking. This vision contrasted with other Swiss watchmakers who continued
to distance themselves from their mechanical past so they could expand their capabilities to accommodate quartz technology.

**Common superordinate values among entrepreneurs and guardians.** Throughout the 1980s, shared geography and longstanding community ties kept guardians and entrepreneurs aware of each other’s evolving visions for the industry. Both visions continued to show promise as SMH and Blancpain found financial success. Although leaders such as Hayek and Biver held alternative visions, each envisioned a viable future for the Swiss watchmaking industry when most others assumed “their time [had] come and probably gone” (e.g., Landes, 1983: 359). As this period evolved, we found entrepreneurs and guardians shared several salient superordinate values associated with the emotive and symbolic nature of Swiss watchmaking. These overarching values helped leaders shift the field’s trajectory away from an anticipated path of deinstitutionalization (Oliver, 1992) after a technological shock (Tushman & Anderson, 1986).

First, we found leaders began to recognize that they were both espousing values associated with the “emotionality” of their watches. Swatch had proved to be effective because Hayek’s team marketed it as an emotional product (i.e., an extension of the consumer’s unique personality). One of Hayek’s direct reports recalled the importance of emotion to his vision: “Hayek said to us, ‘You know that the watch is not only something that tells time; it’s something emotional on your wrist.’ He was always talking about emotion. That was his big thing.”

Likewise, guardians began to tap into the emotionality of mechanical watches to promote their vision for the field. When asked to illustrate his vision for Swiss watchmaking, Biver stated, “A watch is emotion. It is love.” Another longtime watch executive and guardian offered a similar response: “I mean, a watch, a mechanical watch is about emotionality, about beauty. It makes a noise, it moves.” Such emotional and personal identity linkages appeared to renew
interest in mechanical watches, even though they were less accurate than the quartz alternative. According to an industry expert, “Mechanical watches [became] emotional. And the minute something is emotional, all rationality is lost.” Both Hayek and Biver tapped into the emotional, artistic, and aesthetic aspects that linked watches to the values of art and beauty in their respective visions for the industry.

Second, entrepreneurs and guardians shared commonalities as stewards of Swiss national identity. The watch had long served as a symbol of Swiss ingenuity (Breiding, 2013), and the notion that Switzerland would no longer produce watches was unfathomable to both sets of actors. As a result, Biver and Hayek tapped into Swiss nationalism as a way to engender support for their visions. “They never forgot the Swiss [component],” said one watchmaker. “They associated Swiss with precision and fine engineering and everything else.” Swiss identity became a theme that often superseded debates about whether the field should focus on mechanical or quartz technology. A manager who reported to Hayek in the 1980s recalled, “He was really the guy who made [the Swiss] believe in us again.” Another watchmaker summarized how institutional leaders like Hayek and Biver helped maintain a link between Swiss identity and a future for the beleaguered field, noting, “In the minds of a lot of us watchmakers, and in the minds of the public, it was a decision about how people came to buy a watch. [These leaders] were saying the ‘Swiss watch’ was still a big starting point.” These shared values allowed the two visions to coexist without discrediting each other, and over time triggered a subsequent process of negotiation and resolution rather than contestation, described below.

**Mechanisms of Negotiation and Resolution: 1990s-2008**

Starting in the 1990s, a third and final phase emerged where we found entrepreneurs and guardians began to interact more frequently. These interactions led to a renegotiation about the
boundaries of the field. Several mechanisms facilitated these interactions, including tradition cultivation, tradition conservation, and creative abrasion.

**Tradition cultivation: history as emergent.** Entrepreneurs and guardians debated how to interpret history and the role that tradition should play in the ongoing evolution of the field. To entrepreneurs, history was emergent – a malleable resource used to communicate positive aspects of a brand’s history to the consumer. During the 1990s, Hayek and his team began to invest significant marketing resources into communicating the history of SMH’s various brands. Stories about how Longines had been the official timing instrument for the Olympic Games, as well as stories about Omega watches worn by astronauts when they first landed on the moon, proved to be valuable symbolic marks of distinction and lineage. An executive noted, “For Omega, they were speaking more about the history of the brand on the moon. It was less important that the watch was able to remain precise on the moon. These types of histories were very important in the industry.” Other entrepreneurs began to treat history as emergent rather than static. Executives began to reinterpret and communicate aspects of their company’s history. “It’s amazing how [brands] have rewritten their history. But the truth is there are little bits and pieces that are true,” said an expert. Another reporter confessed, “Creating history books [became] a public relations effort rather than a means to document exactly what happened.”

The value of historical narratives proved to be so strong that executives outside Switzerland began purchasing naming rights to dormant Swiss brands while manufacturing their watches in Asia. One non-Swiss CEO recalled how he set up his company in this way:

I wanted to enter the watch industry so I went to Switzerland and came back with an option. We did some research on the brand because we wanted one with some history. I was looking for a Swiss brand that was dormant. Then we learned that all manufacturing could be done in Asia much more cheaply.
An expert familiar with the purchase explained, “He bought into that history. It gave him some validity over other brands even if he could not mention that the brand was no longer based in Switzerland.” For the executive, the brand’s prior Swiss history could still be leveraged even though he had moved the company’s operations out of the country. Likewise, in the race to distinguish their various brands within Switzerland, some executives accentuated their historical narratives to align with a specific marketing strategy or brand identity.

**Tradition conservation: history as static.** Guardians typically did not share the view that historical narratives could be molded to suit a brand’s strategic purposes. To guardians, history was static – something that should be preserved and protected without manipulation. These individuals believed history needed to be authenticated and conserved as elements of Swiss culture and tradition. For example, Biver opposed company executives reshaping their historical narratives to fit strategic goals, arguing:

> Sometimes you have managers coming into an industry and then they destroy it because of a lack of knowledge of the history, a lack of respect of the tradition. I think all my people share with me the incredible respect of our industry. We feel we are the employees of the tradition. We are not just an employee of a brand; we have a mission to respect this culture, to respect the tradition and our boss is the tradition of the culture. So whatever we do must match this culture or this tradition.

While most Swiss watchmakers began to devote time and effort to understanding their history, historians questioned their success. According to a Swiss watch historian (Donzé, 2011b: 1), “The weight that watchmaking companies have attached to their own history in their PR policy gave birth to many books… [but] paradoxically, [Swiss watchmaking] general history [was] still unknown and not easily [sic] to access.”

Starting in the 1990s, historians began to play a greater role as guardians of Swiss watchmaking’s authentic past, both in academic circles and as in-house company archivists or corporate historians. Many companies hired PhDs in history to research their past achievements.
However, these historians often struggled to maintain professional norms consistent with their prior training. According to one who worked for a prominent Swiss watch company, “True historian work is exciting. But when you are working in a company you have to be aware that [executives] cannot wait ten years for you to prove and reprove every fact. It’s not possible. So you have to trust your heart or your instincts.” For historians working inside watch companies, the task was to balance professional norms (e.g., Scott, 2008b) with a need to help the company develop an authentic marketing story that could attract consumers.

For many Swiss brands, maintaining and communicating an “authentic” history proved to be a symbolic resource to distinguish their watchmaking traditions from Japanese and Chinese quartz competition. To protect aspects of Swiss tradition and history, several industry guardians banded together with the government to introduce “Swissness” policies aimed at preventing improper labeling and counterfeiting of products, including watches, produced outside Switzerland but alluding to a Swiss heritage. One Swiss government official posited that 20 percent of a mechanical watch’s value in the 2000s came from its claim of being Swiss.

Different views over the role of tradition and history appeared to have manifested distinct interpretations of who and what was core to the institution of Swiss watchmaking itself. Having entrepreneurs and guardians in dialogue with each other helped both sets of actors evaluate field boundaries, especially within a craft-based industry where membership is often assessed by specific training, technologies, or other credentials which have essential and shared meaning and values associated with history (Hatch & Schultz, 2017; Lamont & Molnár, 2002). Thus mechanisms of tradition cultivation and conservation sparked field-level debate about the past and revealed an additional mechanism of resolution: creative abrasion.
**Creative abrasion.** Creative abrasion is a process whereby actors with seemingly divergent views collaborate and converge on common ground via processes of sustained dialogue and debate (Hill, Brandeau, Truelove, & Lineback, 2014; Leonard & Sensiper, 1998; Skilton & Dooley, 2010). We found creative abrasion served as a critical mechanism to help entrepreneurs and guardians interact more “frequently and fatefully” (Scott, 1994: 208) in service of a common meaning system associated with Swiss watchmaking. The success of the Swatch in the late 1980s had provided the liquidity Hayek needed to expand his vision to transform the entire Swiss watch industry. Beginning in the 1990s, Hayek used the revenues from Swatch sales to acquire several additional Swiss mechanical watch brands, bringing them under the roof of a single “group.” One company Hayek purchased was Blancpain, which he convinced Biver to sell to SMH for $43 million (CHF60 million). The acquisition aimed to combine elements of Biver’s guardianship vision with Hayek’s entrepreneurial vision for the Swiss watch industry.

The SMH group structure allowed multiple watch brands to benefit from membership, providing stronger negotiating power with distributors, capital investments that came from overall group profits, and the diffusion of new technical and business methods that facilitated organizational learning across the group. Hayek’s initial consolidation plan that formed SMH had created the largest mechanical and quartz watch movement factory (known as ETA) in Switzerland. The factory soon supplied 80 to 85 percent of watch movements to all the other Swiss brands in the country, including the direct competitors of many SMH brands. According to a watch analyst at the time, SMH’s focus on producing quartz and mechanical technology simultaneously was critical to the resurgence of the Swiss watch industry during the 1990s:

Hayek got this reputation as somebody who saw the light and knew what to do. He realized that the power of the old company was in the [mechanical] brands like Omega.
He had a good looking, high quality watch that was going to be assembled automatically, but at that time it was being all hand-assembled. It was not the quartz Swatch that saved the industry. It was developing the fully automatic [Swatch] assembly line which then was very quickly adapted for all other quartz and mechanical movements.

In addition, Hayek’s acquisition of high-end mechanical watch factories like Blancpain infused novel handmade design techniques into SMH’s portfolio. Under the group model, each brand represented a specific price point to vertically segment the market, with quartz variants serving the bottom, midrange price segments, and luxury mechanical watches serving the high end. By allowing quartz and mechanical technologies to co-exist, Hayek and Biver helped legitimize a symbiotic relationship between the two forms of technology, and thus began to ameliorate prior boundary tensions at the juncture of quartz and mechanical watchmaking.

Creative abrasion, and the interaction between entrepreneurs and guardians such as Hayek and Biver, facilitated the conditions that led to industry adaptation and resilience. For example, after Hayek acquired Blancpain he leveraged Biver’s vision and appreciation of the past. According to an industry historian, “History and tradition entered Swatch Group [SMH] through Blancpain… Indeed, the takeover provided an opportunity to internalize the marketing skills of Biver and his team, then to apply them to the group as a whole” (Donzé, 2011a: 15). Reporting directly to Hayek as Omega’s new president, Biver recalled, “I was probably the only one that understood Hayek 100 percent. I was the only one who shared his vision.” Biver’s insistence on conserving the traditions of Swiss mechanical watchmaking helped reiterate the symbolic value of craftsmanship for mechanical watchmaking at SMH. Biver began to develop a new marketing message for Omega that connected Omega’s past with the future and began to seek input from watch aficionados and collectors around the world to build new communities of Omega collectors. A former employee noted, “When Biver took over, Omega again became very profitable.” In parallel, Biver came to embrace Hayek’s vision for the field, stating:
The Swiss watch industry was not saved by mechanical watches, it was saved by quartz watches. Hayek realized the Japanese were killing us because their watches were so cheap. So we had to respond. He saw we had to adapt by inventing our survival. We had to learn how to make to make a watch without a human being.

In 2013, Hayek’s son described the strategy at a celebration of Swatch’s thirtieth anniversary:

And then came Swatch. It was an incredible strategy to regain the lower market share. To attack there. [It allowed us] to be able to maintain the creativity and innovation of the upper [mechanical] market segment. To give the possibility to all these other wonderful brands that you see are full of innovation, to continue to develop and be successful. This is what Swatch has done. So thanks to Swatch, all these [mechanical] brands exist.

The interaction of several other guardians and entrepreneurs also helped reshape the field.

Capitalizing on unexpected market interest from collectors, the Italian entrepreneur Osvaldo Patrizzi started auctioning mechanical watches and antique clocks to a base of consumers interested in mechanical watch technology. His auction house, Antiquorum, published color catalogues with in-depth technical descriptions, historical backgrounds, and documented provenances similar to those found in high-end art markets. A notable collector recalled the unexpected increase in value for a vintage mechanical Patek Philippe he had bought as a frugal young man and later sold at auction:

You cannot collect quartz watches. The heartbeat of a mechanical watch is the heartbeat of human culture. I bought my first [mechanical] Patek in the early 1980s with one paycheck, but I sold it in 1989 for $430,000. Managers in every watch company noticed this trend and couldn’t believe people still wanted mechanical watches.

Auction prices for vintage pieces continued to rise throughout the 1990s and 2000s (Reardon, 2008), signaling to watch executives that guardian-oriented visions still held promise for the industry. For example, one entrepreneurial Swiss CEO who had solely focused on retooling to accommodate quartz technology realized that he could also benefit from listening to collectors:

It started with the collectors, and [their] influence on mechanical watches. The auctions showed that the mechanical watches still had a resale value. And that created thousands, literally thousands of collectors. At auctions, [vintage mechanical watches] were selling for more than if you bought [the new model] in the shop; and that was interesting and
created confidence to produce limited editions of 15, 20, or 50 pieces. They sold quickly to all these crazy collectors.

As the vintage mechanical watch market attracted new buyers, other brands such as Patek Philippe, Rolex, Breguet, and Omega partnered with Antiquorum, Sotheby’s, and Christie’s to sponsor special auctions for their pieces. A new type of collector emerged in the vintage market. In contrast to the “purist” or “purebread” collector-buyers of the 1980s, an auctioneer described the influx of these new collectors as “Armani suit people,” claiming, “not only did they have an interest in the watches, but they had the money to buy them.” Another auctioneer noted, “It’s the tie to history that built the collector world. The obsession continued to grow year after year.”

Throughout the 2000s several brands reissued new versions of vintage mechanical models that were selling at auction; and the high prices of the vintage pieces often justified the increased prices for the reissued models.

Guardian collectors became valued assets to entrepreneurial brand managers who could turn to them to help validate new watch models and ensure the brand was still rooted in its history. Several executives noted that they began to invite guardian collectors to attend focus groups to provide feedback on the authenticity of new designs. Companies also hired these collectors to write articles about the new models, hoping these individuals might uncover information that had been lost when many companies had discarded their archival records during the quartz crisis. In this role, collector guardians were able to help others see how mechanical watchmaking traditions could serve ongoing embodiments of Swiss watchmaking.

**Boundaries as barriers and junctures.** The interaction between entrepreneurs and guardians led to the renegotiation of several innovative structural, cultural, technological, and organizational boundaries within the field of Swiss watchmaking. In prior work, boundary negotiation and boundary expansion activities have been shown to influence how actors in a field
conceptualize the collective and essential meanings and values associated with capability transitions and their history (Cohen & Tripsas, in press; DiMaggio & Powell, 1983; Nag, Hambrick, & Chen, 2007). Because field boundaries are established among actors who share a common technology, product, and market, technological change typically precipitates a shift in an established field’s boundary composition (e.g., Leblebici et al., 1991).

In Swiss watchmaking, Hayek had reshaped the technical boundaries associated with Swiss watchmaking to include quartz technology. Doing so helped to reconceptualize these boundaries as *junctures*, in which the boundaries could be viewed as dynamic places of contact or connection rather than static delineations of separation (Quick & Feldman, 2014). Guardians and entrepreneurs came to rely on each other to maintain several important symbolic boundaries to support their visions. After the Japanese launched their products, “quartz started to be a dirty word among Swiss watchmakers,” noted one reporter. “They called quartz watches ‘cheap electronics.’ We don’t want that. We want to preserve high value mechanical stuff.” Such admonitions proved useful guideposts for Hayek and his team, helping them develop an innovation agenda that emphasized common superordinate values with these watchmakers. Hayek realized the focus should be on developing a “Swiss high-quality” watch infused with emotionality. A former analyst noted, “Swatch was a low-cost, high-quality [quartz] watch. That’s the way they wanted it to be seen. To do so, the technology was radically reinvented.”

By conceiving boundaries as junctures, Hayek was able to reconceptualize how mechanical and quartz capabilities could advance his vision for the field. Alternatively, guardians helped maintain boundaries as barriers (Quick & Feldman, 2014), which delineated traditional values that could not be negotiated or compromised. Doing so protected the authenticity of Swiss watchmaking and maintained an accurate link to its past. For example,
Biver’s initial marketing slogan – that Blancpain had never made a quartz watch and never would – reinforced clear boundaries about what constituted a legitimate Swiss watch. By essentially ignoring the fact that the mechanical watches were 20 times less accurate than quartz, he and other guardians played an essential role in reestablishing technical boundaries about the value of craftsmanship for high-end Swiss watchmaking (Kebir & Crevoisier, 2008).

Guardians and entrepreneurs also helped each other negotiate technical change in the field by agreeing on certification standards (e.g., Suárez, 2004) for both Swiss mechanical and quartz watches. Ironically, after the quartz crisis many watchmaking brands continued to certify the precision of their mechanical watches to legitimize technical proficiency within the subfield. The primary certification organization in Switzerland, Contrôle Officiel Suisse des Chronomètres (COSC), offered accuracy testing and certificates for Swiss mechanical (and quartz) movements for a fee. Rolex, which continued to focus almost entirely on the production of mechanical watches, continued to have all its watches certified by COSC (see Figure 4).

According to the COSC director, his organization served two types of customers:

First, we've got the historical customers, the big brands like Rolex. They demonstrate through the COSC certificate that the quality system they have in their factory is one of the best in the watch industry. Then we have the second type of customer, who does not have the same historical base, so they want the certificate of the COSC to communicate to the market that their watches are official Swiss chronometers.

Certification organizations like COSC helped maintain standards that reinforced values such as precision and craft associated with Swiss watchmaking. By adhering to such technical standards, smaller or newer mechanical watchmakers could gain credibility as “official” Swiss watchmakers. The certification allowed both technologies to coexist with separate standards, but nonetheless, helped demarcate “Swiss technical precision” from other foreign competitors.
In sum, the creative abrasion between entrepreneurs and guardians established some boundaries as non-negotiable barriers (the values of Swissness embedded in craftsmanship and quality) and some that were more dynamic junctures (means of production and technological capabilities). This highlighted the common purpose and enabled institutional leaders to develop and work toward a shared vision for the industry.

Field Adaptation and Resilience

By 2008, the Swiss watch industry had recorded 19 quarters of consecutive growth, achieving 67 percent growth over the previous five years. The export value of Swiss watches reached approximately US$15.8 billion and was estimated to account for 55 percent of the global watch industry. When Hayek had presented his initial vision to the banks in the early 1980s, he estimated SMH was valued at SFr328 million (USD$180m); 20 years later the group reported revenues of SFr6.44 billion (USD$6.22b), 70 times the original investment (Breiding, 2013: 43). More broadly, the field of Swiss watchmaking had successfully adapted and repositioned itself in the luxury segment of the global watch market. The Swiss no longer attempted to compete on global production output, having ceded that title to Asian manufacturers. Instead, the average export price of the Swiss watch was US$563, compared to the average value of a Chinese quartz price of US$2 (Federation of the Swiss Watch Industry, 2009). Such price premiums helped the Swiss to achieve continued growth in overall export values. Entrepreneurs like Hayek, who had reinvented Swiss watch production processes, and guardians like Biver, who had conserved values associated with Swiss historical lineage and craftsmanship, ultimately reshaped the field altogether. As one company historian noted, “[Swiss watchmaking] is not only about precision
anymore. It’s about a dream, it’s about heritage, it’s about the past.” Four decades after the introduction of the first quartz watch, the field of Swiss watchmaking had proven resilient, having reported a proliferation of over 600 watch brands and significant increases in enrollment in watchmaking schools. In 2008, the Swiss were again considered a leading symbol of innovation and prestige throughout the global watch industry (Donzé, 2011a; Raffaelli, 2018).

**DISCUSSION**

Our analysis of the resurgence of the Swiss watchmaking industry, grounded in first-hand interviews with influential actors who led the industry through the quartz crisis, reveals how leaders both cultivate and conserve tradition and history during a period of technological transition. Our findings extend prior work on organizational responses to environmental and technological shocks (e.g., Hoffman, 1999; Tushman & Anderson, 1986) by exploring how institutional leadership (Selznick, 1957) can manifest as a form of entrepreneurship (Battilana, 2006) or guardianship (DeJordy, 2010). By examining the mutually constitutive roles of entrepreneurs and guardians, we also expand research on the strategic management of contradiction at the organizational level (e.g., Smith, 2014) to the industry level of analysis.

**Agency, Contradiction, and Strategic Orientation in Institutional Work**

The institutional leaders in our study adopted strategic visions for their industry that reflected attachments to valued aspects of the institution. These visions manifested in forms of agency associated with institutional entrepreneurship or guardianship. Leaders engaged in institutional entrepreneurship responded by embracing change, looking to expand and adapt the institution to accommodate new technologies or innovative processes or structures. The Swatch group was the focal point of considerable entrepreneurial activity in our study, as demonstrated by its shift away from mechanical movements to quartz technology, while simultaneously
developing new manufacturing technologies that married traditional aesthetic sensibility with inexpensive quartz timepieces. Doing so led to novel distribution channels and helped redefine the Swiss watch as a fashionable expression of individuality.

At the center of Swatch was Hayek, whose early consultancy role for the banks during the height of the quartz crisis afforded him an industry-wide perspective. Yet, at that time, he was an outsider to the Swiss watch industry; he was neither embedded in nor encumbered by the generations of tradition and taken-for-granted assumptions infused into the institution. He saw the need for industry-wide adaptation to the shift from mechanical movements to quartz technology. More importantly, he recognized the need for automation to increase operational efficiency in Swiss manufacturing. His outsider perspective helped him avoid the banks’ threat-based perception of quartz technology (Staw, Sandelands, & Dutton, 1981) and instead see ways to leverage it to rebuild the industry even in the midst of its decline. His company, SMH, was the manifestation of this vision, giving him – and his vision for Swiss watchmaking – both visibility and legitimacy across the industry. He tapped others with entrepreneurial orientations to lead the development of SMH’s innovative technologies and automation of production processes in part because of their prior innovative efforts. Yet, despite being more embedded in the institution of Swiss watchmaking – or perhaps precisely because of it – they may have lacked the vision for industry-wide change that characterized Hayek’s institutional leadership and entrepreneurship.

On the other hand, organizations and actors enacted institutional guardianship during the crises by foregrounding the traditional, existing institutional practices and traditions. Biver made Blancpain a visible touchstone for the values of tradition, quality, and craftsmanship that distinguished Swiss watchmaking over centuries. This study’s opening Blancpain ad explicitly asserts the values of persistence and antiquity that can serve as consistent hallmarks of an
institution (Hughes, 1936), as did the actions of the collectors and auctioneers who proclaimed mechanical watches as “the heartbeat of human culture.”

As the counterpoint to Hayek, Biver gave a face to guardianship through highly visible, public pronouncements of the values of the past. Hughes’ (1939: 283) observation that humankind embraces traditions, “makes a virtue of them, and glorifies them for their antiquity” was evident in Biver’s relaunch of Blancpain around the central theme of it being Switzerland’s oldest watch company. Interestingly, though, while Hayek was the unquestioned hub from which entrepreneurial activities fanned out in multiple spokes, Biver’s guardianship activated other forms of institutional maintenance in a distributed fashion, with supporting roles enacted by a larger complement of influential players acting in uncoordinated ways. Auction houses, collectors, and horological societies all played a pivotal role in promoting the value of mechanical watches; these emerged and worked in a distributed and uncoordinated manner, while entrepreneurial activity to incorporate quartz technology into Swiss watchmaking practices was centrally coordinated through Hayek’s vision.

Also, it is not clear that all the forms of institutional guardianship described here meet our definition of institutional leadership. For example, the story of Charles Vermot, who defiantly saved movements and tools at Zenith and enabled the resurgence of mechanical watch production, contrasted with Biver’s salvaging of Blancpain. While Vermot did not accept that the tools of his trade should be destroyed, he did not offer a vision for reasserting their value to the institution; instead he enacted a more focused forms of guardianship, preserving material artefacts without promoting their symbolic value or that of the institution itself. This was in stark contrast to Biver, who bought the naming rights to Blancpain to promote the symbolic value of history embedded in its status as the oldest watchmaker in Switzerland, and by extension, the
value of the institution it represents. Part of this distinction may have come from Biver’s relatively elite status – his access to capital and visible social position – as opposed to Vermot’s less visible and lower status, but the result was a different form of guardianship.

The collectors and auction houses also signaled the symbolic and economic value of particular artifacts (Kaghan & Lounsbury, 2006): the watches themselves. Their presence, and the continual sales above expected market price, validated Biver’s assertion that the value of the tradition exceeded the mere technical functions of the artifacts. Through their practices, they asserted the symbolic value of the institution as a whole, but no vision for preserving it; at the same time, they proved useful to legitimize and propel Biver’s vision.

While Hayek championed the entrepreneurial vision from the top and commissioned others with aspects of its execution, Biver embodied the guardianship vision and validated others’ latent desires for guardianship. His first factory, in an old farmhouse, was staffed by watchmakers who had refused to adapt to quartz technology. Their engagement, like Vermot’s and the collectors’, clung to the values they infused into traditional Swiss watchmaking. Doing so legitimized Biver’s visible guardianship, but not in the top-down directed fashion of Hayek’s institutional entrepreneurship. Rather, Biver offered them a path infused with meaning and value that allowed tradition to be activated in a new form: he reemphasized the meaning and values infused in the institution of Swiss watchmaking.

**Tensions and Contradictions in Institutional Evolution**

At the organizational level, research on divergent prospector and defender strategic orientations (Hambrick, 1982) has examined the relative effectiveness or performance of the resulting initiatives (Fox-Wolfgramm et al., 1998). In contrast, our analysis focused on how the sustained co-existence of two distinct and successful visions of entrepreneurs and guardians,
enacted through their organizations, set up tensions that precluded typical “either/or” (Smith, 2014) resolutions. As recounted above, Hayek’s entrepreneurial vision reinfused the industry with both confidence and liquidity. Similarly, Biver’s guardianship provided a touchstone for a wide array of guardianship behaviors, creating a reinforcing loop that validated and legitimated his vision. While they moved the industry forward together, it remained in an unsettled state as the alternative visions initially propagated. This allowed institutional leaders to engage the apparent contradictions and interrogate the underlying values. By doing so, they aligned and decentered differences (Quick & Feldman, 2014), resolving the tensions inherent in their visions.

One source of tension came from the different ways in which the entrepreneurs and guardians engaged history and tradition. While both recognized that the institution was steeped in a history that had formalized the correlation of power and values (Stinchcombe, 1968), institutional entrepreneurs saw history as a more malleable resource, pieces of which could be selectively chosen, reimagined, and bricolaged in support of an adaptive vision for the future (Lounsbury & Glynn, 2001). On the other hand, guardians saw history holistically, an indivisible testament to the meaning and value embedded in prior institutional arrangements (e.g., Biver’s statement that they were “employees of the tradition”). We revealed how both forms of institutional leadership, and the divergent perspectives of meaning, value, and role of history upon which they were based, permeated the industry as SMH and Blancpain thrived in the 1980s. Having two divergent yet successful responses not only enabled but also compelled leaders to address the resulting apparent contradiction (Smith, 2014).

Another consequence of the divergent views of history was a parallel divergence in the view and management of boundaries. Much of the work on boundaries has focused on the divisions or distinctions between sets of actors and practices enacted within or outside the
context of the institution (Bucher, Chreim, Langley, & Reay, 2016; Gieryn, 1983; Quick & Feldman, 2014; Zietsma & Lawrence, 2010) In our case, guardians saw boundaries as barriers that served to preserve the values associated with Swiss watchmaking: craftsmanship, quality, and beauty. These boundaries served to distinguish them from quartz which they regarded as inferior technology because of the low-quality associated with Japanese quartz watches. Entrepreneurs, on the other hand, saw boundaries as junctures: points of contact with other audiences and technologies. They looked to span these boundaries and expand Swiss watchmaking to include new technologies, processes, and structures.

Interestingly, while the two forms of boundary work were distinct, like the guardianship and entrepreneurship visions themselves, they were not incompatible. The industry of Swiss watchmaking evolved by adopting selectively permeable boundaries. Guardianship work enforced boundaries on quality craftsmanship and the “art” of watchmaking. Not only did the industry continue to maintain high standards of quality, it also enacted more boundaries-as-barriers through the enactment of “Swissness” trademark requirements and precision standards. Doing so fortified and bolstered the boundary work of guardians protecting institutional values. Conversely, quartz technology and modernized production processes penetrated the boundaries and became part of the institutional arrangements in Swiss watchmaking even while the production of mechanical watches continued. This simultaneously revolutionized Swiss watchmaking and preserved value claims around quality, craftsmanship, and beauty.

Taken together, the tensions and resolutions around the value of history and the boundaries defining Swiss watchmaking address tensions that Selznick (1957:138-139) referred to as the “integrity” of the institution. As he wrote:

The integrity of an enterprise goes beyond efficiency, beyond organization forms and procedures, even beyond group cohesion… The building of integrity is part of
what we have called the “institutional embodiment of purpose” and its protection is a major function of institutional leadership.

While manifest in debates over boundaries, technologies, and structures, the underlying concern of institutional leadership was with the values that defined the industry of Swiss watchmaking. We found that the identification of superordinate values allowed leaders with divergent orientations to reconcile alternative visions into an integrated vision for the industry’s future.

**Resolutions: Protecting Integrity in Transformation**

The resolution of the multiple dialectic tensions in our study was transformative rather than simple synthesis (DeJordy, Almond, Nielsen, & Douglas Creed, 2014). The interaction of institutional leaders helped to question various taken-for-granted assumptions, identify the “institutional embodiment of purpose” (Selznick, 1957: 138-139), and protect the associated core values. For example, by the end of our study period the Swiss had embraced and appropriated quartz technology, rejecting an assumption that only mechanical movements defined the tradition of Swiss quality. Importantly, however, they retained the value of “Swiss quality” by embracing quartz in a manner quite distinct from the Japanese mass-market, low-cost production strategy that precipitated the crisis. The battle between guardians and entrepreneurs over the integrity of the institution yielded a strategy that leveraged quartz technology and supported – rather than eroded – the quality and status traditionally associated with Swiss watches. They re-elaborated the salience of quality captured in aesthetic aspects of beauty, fashion, and art. Even the Swatch, designed to be inexpensive enough to be a “second watch,” promoted an aesthetic quality that harkened to the traditional craftsmanship of the industry, now focused on the fashionable expression of identity rather than precision movement technology. The acceptance of new technologies, such as injection molding critical to the Swatch design innovations, was cast as a
modern definition of what it meant to be a “Swiss watchmaker” and preserved the integrity of the institution even as the prior hallmark of accurate movements became commodified by quartz.

The creative abrasion between entrepreneurs and guardians resulted in conscious attention to institutional integrity. Authenticity and respect for history became paramount concerns for organizations, even as they embraced quartz technology. In fact, the resolution recognized the tension itself as a strategic resource. Unlike traditional stories of co-optation (e.g., Selznick, 1949) or value displacement (e.g., Thornton & Ocasio, 1999), the organizations in our study formalized new roles and arrangements that institutionalized and propagated these tensions between guardianship and entrepreneurship. Our archetypes provided the foundation for this. Biver and Hayek both recognized the benefits of staying engaged with the other, culminating in Hayek bringing Blancpain into the Swatch Group. By the end of our study, watchmakers institutionalized the practices of hiring company historians and engaging collectors in product development who promoted and protected the weight of history in strategic decisions, establishing a sustained and formalized dialectic with more entrepreneurial functions of marketing and R&D. These practices diffused through a mutual commitment of entrepreneurs and guardians to preserve the integrity of the institution. Because of an appreciation of the value inherent in the tension between perspectives, new institutional practices maintained a certain amount of creative abrasion across the industry and within individual organizations. This tension helped actors, and the industry, maintain agility in turbulent times while simultaneously protecting and negotiating a purpose for being that defined the institution’s integrity.

**Implications for Theory and Future Research**

Our contributions offer three novel implications for research. First, we find the productive interaction of institutional guardians and entrepreneurs provides the foundation upon
which industry resilience is forged. Without Hayek’s entrepreneurial focus on operational efficiency and the liquidity realized from the commercial success of the Swatch brand, the industry would not have modernized enough to leverage new technologies. Equally true, however, was that without the collectors, auction houses, and guardians like Biver signaling the commercial value and cultural salience of traditional Swiss watchmaking, the industry may have succumbed to competitive isomorphic forces (DiMaggio & Powell, 1983). Although research in both institutional entrepreneurship and guardianship has acknowledged the presence of the other (e.g., Barin Cruz et al., 2016; Creed et al., 2010; Lawrence & Suddaby, 2006; Maguire & Hardy, 2009), little work has focused specifically on the dialectic that emerges as a result, nor how its resolution affects the resultant institutional arrangements. Our work exposes the interaction between different perceptions of the role of history and tradition in response to an environmental shock (Fligstein, 1991). Future work might examine dialectics grounded in other perceived contradictions, for instance delving further into distinctions between formal and substantive rationalities (Weber, 1978) associated with many social enterprises (Pache & Santos, 2013).

Second, our work contributes to a deeper understanding of how actors perceive and leverage history and tradition in organizational and institutional contexts. The value of history was salient to all our institutional leaders. Importantly, it was their shared sense of symbolic history that bound the entrepreneurs and guardians together, maintaining their “frequent and fateful” (Scott, 1994: 208) relation to each other, and setting up the creative abrasion that propelled the resurgence of the industry. Our work has implications for current work on the role of history in institutions (Foster et al., 2011; Suddaby, Foster, & Mills, 2014). Future research could examine the ways in which shared and unshared perspectives on history promote
continued interaction or divergent paths for institutional leaders by analyzing how the balance of
shared and unshared perspectives on history may affect institutional change.

Finally, Hayek embodied and enacted aspects of institutional entrepreneurship consistent
with research in that area, such as his relative dis-embeddedness (Leblebici et al., 1991);
however, the guardianship processes enacted and catalyzed by Biver have received less
theoretical attention (DeJordy, 2010; Lawrence & Suddaby, 2006). His visible profession of the
values of tradition not only animated his strategic action, but also facilitated distributed and
uncoordinated action that did not match existing theories of industry evolution or even
institutional work. Although these guardianship activities were essential to successful resurgence
of the Swiss watchmaking industry in our study, more research is needed to understand how and
when guardianship and the preservation of values affects industry resilience and adaptation.

Our analysis of institutional leadership in Swiss watchmaking echoes other work that has
suggested the salience of distributed action among heterogeneous actors in institutional contexts
(e.g., Bertels, Hoffman, & DeJordy, 2014). While prior research has focused primarily on
highlighting important theoretical distinctions between the actions of institutional entrepreneurs
and guardians, we offer a process-based approach that reveals how their ongoing interactions can
serve as a critical and necessary ingredient for industry and organizational revitalization.
REFERENCES


Friedberg, M. 1999. TimeZone Interview with Jean-Claude Biver, *TimeZone*.


**Figure 1:** Export value of Swiss watches, 1973-2008

(millions; real values, reported in 2008 francs)

Source: Federation of the Swiss Watch Industry; World Economic Outlook data, IMF; analysis by authors.

**Figure 2:** Swiss watch production (units), 1973-2008

Source: Federation of the Swiss Watch Industry, analysis by authors.
Figure 3: Institutional Entrepreneurship, Institutional Guardianship, and Field Adaptation

INITIAL STRATEGIC ORIENTATION
in response to radical environmental and technological shock.

INSTITUTIONAL GUARDIANSHIP

ALTERNATIVE VISIONS FOR THE FIELD

INSTITUTIONAL ENTREPRENEURSHIP

Capability Maintenance

Management of Capabilities

Capability Expansion

Common superordinate values shared among entrepreneurs and guardians?

No

Field De-institutionalization

Yes

MECHANISMS OF NEGOTIATION AND RESOLUTION

Guardians influence Entrepreneurs

Boundaries as Barriers

TRADITION CONSERVATION
(history as static)

CREATIVE ABRASION

TRADITION CULTIVATION
(history as emergent)

Entrepreneurs influence Guardians

Boundaries as Junctures

FIELD ADAPTATION AND RESILIENCE

Swiss Watchmaking Timeline

1970s
Quartz crisis

1980s
Industry consolidation

Launch of Swatch & Blancpain

1990s-2000s
Resurgence of Swiss watchmaking (mechanical and quartz)

2008
Figure 4: Mechanical watch chronometer certifications (COSC)

Source: Contrôle Officiel Suisse des Chronomètres (COSC), analysis by authors.
**Table 1: Representative Supporting Data**

<table>
<thead>
<tr>
<th><strong>Forms of Institutional Leadership</strong></th>
<th><strong>Representative Data</strong></th>
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<tbody>
<tr>
<td><strong>Institutional Entrepreneurship</strong></td>
<td>&quot;In the 1980s, watchmakers struggled to invest money to maintain the industry. [Hayek] struggled a lot to fight all these bankers, board of directors, established people, and all these other people who said it's over. They said to forget about mechanical watches. Try to copy what the Japanese are doing. But he maintained the factories, the know-how. He was able to do this because we produced 10 million Swatch mechanical watches. To be able to maintain the know-how for Nivarox [a movement parts producer]. The same company where you always read that we dominate the Swiss watch market because we are monopolistic and nobody can do their watches without us. Yeah, nobody wanted these products, nobody wanted to invest. So this is what you have to know about the past.&quot; (interview)</td>
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<td><strong>Institutional Guardianship</strong></td>
<td>&quot;Until Hayek, nobody ever before had applied a marketing strategy for a $5000 watch to the marketing strategy for a $50 watch, nobody. So, SMH was totally innovative for the marketing side, and totally innovative from the production side.&quot; (interview)</td>
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<tr>
<td><strong>Management of Capabilities</strong></td>
<td>&quot;Hayek created SMH, which also helped production systems for parts like hair springs and balance wheels. So that was a smart move, he did a lot of good things. Then he did something with Swatch by giving back confidence to the manufacturing, to the industry, he gave back confidence.&quot; (interview)</td>
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<thead>
<tr>
<th><strong>Capability/technology maintenance</strong> (mechanical)</th>
<th><strong>Management of Capabilities</strong></th>
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<tr>
<td>&quot;I used to work for a watch manufacturer whose strategy to revive the brand was to first of all be proud of what we were producing as a &quot;real&quot; [mechanical] watch manufacturer. We re-launched something that had been abandoned.&quot; (interview)</td>
<td>&quot;Well, I think that the fact that in '83, '84 the quartz Swatch revolution came. We didn't want to make a cheap watch using quartz technology.&quot;</td>
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<td>&quot;We thought we would be taking the right decision in continuing to invest in this traditional mechanical industry.&quot; (interview)</td>
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"(interview), (Friedberg, 1999)"
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<tr>
<th>REPRESENTATIVE DATA</th>
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<tbody>
<tr>
<td><strong>Capability/technology expansion</strong></td>
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<tr>
<td>(quartz)</td>
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<tr>
<td>“I remember being at the Swatch factory where they ran the lines 24 hours a day, 7 days a week, 12 months a year and they were never touched by human hands until they came off the line and went into a box.” (interview)</td>
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<td>“Heading this enterprise, Hayek had the opportunity to carry out an innovative industrial policy which largely contributed to the rebirth of the Swiss watch industry. The principle of the new policy was the primacy of marketing over production: as the quartz revolution make it possible for anyone to manufacture watches, the issue was no longer how to make them, but rather how to sell them“ (archival document)</td>
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<td>“[In the 1980s], a large portion of the watches we were making were quartz.” (interview)</td>
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<tr>
<td><strong>Shared superordinate values</strong></td>
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<tr>
<td><strong>Emotionality attached to the watch (both quartz and mechanical)</strong></td>
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<tr>
<td>“Swatch means second watch. Not Swiss watch! The Swiss is in the cross. The “Second Watch” changes the habits of people. And if you can change the habits of people, you can change the market. That’s what Swatch did. It did it by quality and by emotion.” (interview)</td>
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<td>“The watch is something emotional on your wrist.” (interview)</td>
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<td>“Art is love. And watchmaking art is love. I thought of the tradition where people work with fingers, where people work with heritage, where people work in a culture – that form of art will always remain.” (interview)</td>
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<td><strong>Swiss nationalism</strong></td>
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<td>“They said we’re going to promote the watch as a luxury item because Swiss is high quality.” (interview)</td>
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<td>“They associated Swiss with precision, fine engineering, and everything else.” (interview)</td>
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<tr>
<td>“Yes. For me the biggest value they have is being Swiss made. It’s Swiss made, and for me another value is the honesty of the Swiss watch industry. If you buy a Swiss watch, you buy a ‘Swiss made’ product. I think the value is that. The ‘Swiss made’ and the honesty with the final customer.” (interview)</td>
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<td>“At a time when globalization and relocation were common, commercial logic dictated that the tradition be anchored in the [Swiss] Neuchatel territory.” (archival document, Pasquier, 2008)</td>
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<tr>
<td><strong>Mechanisms of negotiation and resolution</strong></td>
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<tr>
<td><strong>Tradition conservation (history as static)</strong></td>
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<td>“Sometimes you have managers coming into an industry and then they destroy it because of a lack of knowledge of the history, a lack of respect for the tradition. I think all my people share with me the incredible respect of our industry. We have a mission to respect the tradition.” (interview)</td>
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<td>“A watch factory without history is just making fashion watches.” (interview)</td>
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<td>“I think the real collectors, I mean, the real collectors still are buying watches because they’re handmade and there’s something desirable in that tradition.” (interview)</td>
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<tr>
<td>“To so many long-time aficionados of vintage and contemporary wristwatches, it is the legendary reference 2499 by Patek Philippe which displays the most perfect combination of mechanical complexity, dial design, and case proportions. And the one and only ever released example in platinum is the holy grail per se to a large community of collectors.” (archival document, auction catalogue description of a vintage mechanical watch)</td>
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<tr>
<td>“I always made research on old watches and clocks. There I reconstructed some part of the historical technical aspects of the watch. I focused on the history of science. This was the most important part for me. Say, 80 percent of my work was there. And then I used this knowledge to design watches that incorporated this technical history.” (interview with mechanical watchmaker)</td>
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## REPRESENTATIVE DATA

### Tradition cultivation (history as emergent)

<table>
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<th>Quote</th>
<th>Source</th>
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<tr>
<td>“Our ‘boss’ is the tradition of the culture. So whatever we do must match this culture and this tradition. But we also know that we cannot repeat the tradition.”</td>
<td>(interview)</td>
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<tr>
<td>“From a business perspective, it’s all about dollars at the end of the day. It’s about dollars and cents. And that’s where they can make their money and they can justify making their money by playing off [history]. That’s my belief.”</td>
<td>(interview)</td>
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<tr>
<td>“You don’t need the “real” truth about history. You need the truth that is made up for the public.”</td>
<td>(interview)</td>
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<tr>
<td>“Some brands started to emphasize their role in history while downplaying the role of others.”</td>
<td>(interview)</td>
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<tr>
<td>“Many brands are in love with the old history. They are in love in the old profession. They have a huge respect about the old way of doing things. They are not very modern oriented. And these people, they make an excellent job, no questions. They move for measurement instrument in a luxury product. And the fantastic world of watches which make the watch unique for my opinion is today a watch is not anymore a technical system. It’s not giving time. This is a talisman, giving you the feeling that tomorrow you will exist. This is half of the original pre-historical talisman giving you the feeling you will be tomorrow present.”</td>
<td>(interview)</td>
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### Creative abrasion

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<tr>
<th>Quote</th>
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<tr>
<td>“The invention of the [quartz] Swatch brought the reinvention of mechanical watches. I would give the idea of again to Hayek for bringing evidence to all the watch makers in the industry that it’s possible to face competition. Now the question was with which are the right products to do that? They continued with mechanical, but SMH made a lot of efforts in terms of production, in terms of design, when we spoke about the design. I mean they had to win that in a way.”</td>
<td>(interview)</td>
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<td>“So, our initial goal was we actually wanted to introduce contemporary conceptual design in [mechanical] watches. When we started, the watch was very much oriented toward historic, nostalgia. I’m partially still about this, but also about forward thinking design.”</td>
<td>(interview)</td>
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<td>“We were radically modernizing the tradition of watches, placing it in a very bold design, which again was new because the association with traditional mechanical movement with that.”</td>
<td>(interview)</td>
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<tr>
<td>“We must interpret the tradition because if we repeat the tradition, our contribution is zero. You don’t contribute to something when you repeat it. You have to take something from the past and add a bit of the future.”</td>
<td>(interview with Biver, discussing how his vision evolved after Blancpain)</td>
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<td>“We wanted to produce a [mechanical] piece which could be an inheritance piece because we had seen in the auction catalogues upon auction the value such pieces could keep.”</td>
<td>(interview)</td>
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