"Even Better than the Real Thing"?: Exploring Technology Imitations through the Lens of Electronic Organs

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Abstract
Artificial trees, engineered hardwood floors and fake diamonds are among the many technology-enabled products that might be termed "imitations." These products are not copies or forgeries, nor are they direct substitutes for the "real" versions that they imitate. Instead, imitations claim to be "like" other products in a category and to offer a core valued attribute. Imitation products therefore implicate both authenticity, which is concerned with the "real," and categorization. Because the literatures on authenticity and categorization focus on how entities can be perceived as authentic and recognized as belonging to a desired category, however, these same literatures give us little insight into how firms position products that are, by definition, not authentic and that defy categorization by virtue of their "unrealness." In this paper, therefore, I explore this phenomenon. My setting is the introduction of the electronic musical organ, which was made in imitation of the pipe organ. In 1935, two different firms introduced the first electronic organs – the Everett Orgatron and the Hammond Organ. Drawing on 235 advertisements between 1935 and 1953, as well as extensive archival materials, I investigate how even as these instruments targeted the same musicians and were advertised in the same publications, their manufacturers positioned them in very different ways: The Orgatron attempted to mimic the pipe organ as closely as possible, whereas the Hammond attempted to enhance the pipe organ by offering (claimed) improvements. Ironically, the Orgatron's better imitation also served to bind it to expectations attached to the pipe organ category, whereas Hammond's less-successful imitation enabled it to explore new – and, ultimately, more fruitful – markets. My study holds implications for the literatures on technological imitation, entrepreneurship and market entry, and authenticity and categories.

Introduction

Imitation products – that is, products made to imitate a core value or values of an established "real" alternative – are rampant, including imitation meat, artificial flavors and colors, engineered wood, synthetic countertops, and artificial flowers and trees. Such products are unique in that they are defined in relation to and, often, measured against the performance of the "real" product that they imitate. In this way, they differ from conventional substitutes in a product market, which typically lack a singular referent, as well as from forgeries (which do not acknowledge their imitation) and from copies (which *are* the same thing). Imitation products also present a dilemma for the firms that introduce them: On the one hand, firms may strive to claim that their imitation is as close as possible to the "real" referent; on the other hand, firms also must differentiate their imitative products from one another – and these mimicking and differentiating strategies may not always be compatible with one another. Surprisingly, despite the growing ubiquity of imitative products – often fueled by technological advances that enable them – we know very little about how firms introduce and position such products, and to what effect. In this paper, I tackle this challenge.

I explore the introduction of the electronic musical organ. In 1935, two firms, Everett/Wurlitzer and Hammond, introduced the first electronic organs, intending them as substitutes for the larger and more expensive pipe organs that were dominant at the time. Both Everett and Hammond advertised their instruments in the same magazines and highlighted the similarities between their offerings and the pipe organ referent in terms of sound, use, and appearance. Yet while Everett/Wurlitzer hewed closely to the referent, employing what I term a "pure" imitative approach, Hammond claimed that its instrument both imitated *and improved upon* the referent, thus employing what I term an "augmenting" imitative approach. These two

approaches, in turn, were associated with very different performance outcomes for Everett/Wurlitzer and Hammond, despite the similarity of their offerings.

My study makes three primary contributions. First, I extend our understanding of imitation in product markets. Specifically, I detail the different strategies that firms may employ, and their apparent effects, and I surface the paradox that particularly good imitations can bind an imitative product to expectations that surround "real" products in the same category, thus limiting the market for the imitative product. Second, I address the literature on new market entry, challenging research that recommends a niche approach for new entrants. Finally, I contribute to the literatures on both authenticity and categories, contrasting different bases of audience perceptions of authenticity and unveiling imitations as a key mechanism for category expansion.

Literature Review

Imitation Products

To begin, it is important to conceptually distinguish imitation products from related concepts. First, imitations are not copies. Copies, as Posen and colleagues (Posen et al. 2022) describe them, consist of "duplicating an original as nearly as possible." Thus, they are (or attempt to be) exactly the same. For example, "generic" versions of pharmaceutical products such as Ibuprofen (typically) are the molecular equivalent of the name-brand products that they copy; they are not "imitations," at least in functionality.

Second, imitations are not forgeries. Dutton (2003: 259) defines forgeries as follows: "The concept of forgery necessarily involves *deceptive intentions* on the part of the forger or the seller of the work: this distinguishes forgeries from innocent copies or merely erroneous

attributions." Building on this concept, Qian (2014) and Qian, Gong and Chen (2015) describe forgeries in art, in which one artist attempts to pass off their work as the work of another. The deceptive intentions of a producer and/or seller are thus required for a product to be a forgery.

Imitation products such as artificial trees and synthetic rubber are not copies since they do not *attempt to be* exactly the same thing as real trees and real rubber, and they are not forgeries since they do not *deceptively suggest that* they are the same. Instead, imitations are a substitute for an existing product. But they are a unique kind of substitute. Typically, substitutes belong to the same product category as one another and they compete on the basis of established differences within that category. For example, the Ford Fusion and the Honda Accord are both cars and all consumers recognize them as such. Ford and Honda (and potential purchasers) then recognize a set of characteristics such as fuel efficiency, acceleration and braking performance, interior amenities, and so on and they pick different combinations of features and price to establish a differentiated position, attempting to attract consumers and to outcompete one another (and other substitutes) (Peteraf and Bergen, 2003; Porter, 1980 and 1996). More broadly, consumers also may perceive of products in other categories as substitutes when they provide the same core value. For example, bicycles and public transportation may be substitutes for cars in so far as they fulfill a consumer's need for transportation.

Like substitutes generally, imitations claim to offer a core valued attribute, or attributes, of products in a category. But unlike other substitutes, imitations claim only to be "like" the products in a category, and not to "be" a product in the category. For example, artificial trees acknowledge that they are not "real" trees. Instead, they claim to offer some of the same attributes, such as appearance.

Across different kinds of products, these attributes may differ. For example, some imitation products – such as artificial trees, diamonds and flowers – may attempt to replicate the appearance of the real thing. Others – such as synthetic rubber, engineered wood, and fake marble – may attempt to imitate functionality. Others – such as margarine and plant-based "meat" – may attempt to imitate taste. Still others, such as fake fur, may attempt to imitate the feel of the real thing. And, of course, some products may attempt to imitate multiple attributes. For example, engineered wood may attempt to imitate both the functionality and appearance of real wood. All of these imitations are defined, however, by reference to the "real" and they explicitly recognize that they are not "real." Thus, while pork and chicken may be substitute "white meats," as television commercials for pork attempted to establish long ago, "fake" meat only has meaning in relation to "real meat" – and inherently acknowledges that it is not "real."

Authenticity, Categories and Imitation

As the discussion above reveals, reference to the "real" is central to imitative products and imitation products therefore implicate both authenticity and categorization. Authenticity fundamentally is concerned with whether something is "real," "genuine" or "true" (Dutton, 2003: 258; Lehman, 2019: 2; Lu and Fine, 1995). Thus, as Hahl (2016: 930) writes, "authenticity, at its core, is a question of audience perceptions of being real or fake." Of course, as these scholars acknowledge, the referent is critical: a "real or fake" *what* (Lehman et al., 2019)?

This question of "what" can be complicated given the multiple dimensions of every product and thus the multiple comparators against which a product might be judged as "authentic." For example, referencing Carroll and Wheaton (2009), O'Connor et al. (2017) note that a beer might be judged as authentic, or not, on the basis of its ingredients, origin, production

technique or other characteristics – and a consumer may judge it as authentic on some dimensions and not others (though, of course, the most authentic offering may be authentic on multiple dimensions).

In addition, and relatedly, individuals may judge authenticity according to different perceptions of what makes something authentic. For example, building on Bruner (1994), Beverland and Farrelly (2009) note that the same historic site may be judged as authentic or inauthentic by different people depending on the individual and their goals (e.g., a curator versus a merchandise seller, family member or teacher).

Building on these insights, Lehman et al. (2019: 3) identify three different broad conceptualizations of authenticity: as connection to a claimed person, place or time, as when an antiques dealer determines that a coin is an authentic Roman coin; as consistency between the "internal values" and the "external expressions" of an entity, as when employees perceive a leader to be authentic; and as conformity to a category, as when diners perceive a dish to be an authentic representation of a certain ethnic tradition. For purposes of considering imitative products, this third conceptualization of authenticity as "conformity to a category" is most pertinent, and reflects what Carroll and Wheaton (2009) term "type authenticity." This perspective thus builds on Davies (2001, p. 203), who argues, ''something is an authentic X if it is an instance or member of the class of Xs. … an interest in authenticity reflects a concern with correct classification.''

These insights thus highlight the close connection between research on authenticity and research on categories. Grodal et al. (2015) define categories as "socially constructed partitions that group together objects perceived to be similar." Continuing, they note that categories typically "have two basic properties: (1) constituent members, whose inclusion is defined by

rules or boundaries pertaining to a common type of product or service, and (2) a concept, label, or identity that reflects the commonalities that link together the members of the category (Navis & Glynn, 2010: 440)." These features of a category thus tie to the "referent" at the heart of authenticity determinations (an authentic *what*?). Or, to put it slightly differently, categorization rules can adjudicate whether an imitation is a "real" category member or not. For example, if the category is "living things," then a potted indoor tree is a category member but an artificial tree is merely an imitation of a real category member; but if the category is "items used in interior decorating," then both a potted tree and an artificial tree may be considered real members.

Critically, both category membership (Hsu, 2006; Zuckerman, 1999, 2000) and the closely-related concept of perceived authenticity convey benefits to producers. For example, Kovács et al. (2014) find that consumers assign higher ratings to restaurants perceived as authentic. Beverland (2005) finds that producers can charge higher prices for authentic offerings. O'Connor, Carroll and Kovács (2017) find that consumers express greater willingness to pay for products they perceive as authentic. And Verhaal et al. (2017) find that authentic producers have greater legitimacy.

Given these benefits, much of the literature's focus is on how producers can convince consumers that their offerings are authentic (e.g., Beverland 2005; Fine, 2003; Jones et al., 2005). For example, Carroll and Swaminathan (2000) explore how large breweries and contract brewers attempt to shroud their identity so as to appear like authentic craft breweries. Peterson (2013) describes how country music artists adopt wardrobes and personas to make their music seem authentic. Carroll and Wheaton (2009) investigate how restaurants can project an authentic image to customers and food critics. And Beverland (2005) explores how wineries decouple their technical "core" (e.g., their scientific approach to winemaking) from their communications in

order to appear authentic. In each of these cases, producers thus engage in what Lehman et al. (2019: 31) term "authenticity work" aimed at convincing consumers that their offerings are, in fact, real.

By contrast, the literature has little to say about cases in which a firm's products are decidedly and intentionally *not* "real." In fact, to the extent that the literature discusses such cases, the focus is on the costs of inauthenticity. For example, Fine (2003, p. 166) writes, "If authenticity sells art, claims of inauthenticity can be damaging." Similarly, Frake (2017) focuses on inauthenticity among craft brewers acquired by larger brewers, and the ways in which these craft brewers can attempt to assure consumers that they remain authentic. Thus, the literature's emphasis is on attempts by producers of seemingly-inauthentic products to establish authenticity, rather than producers' overt acknowledgement that their products are not, in fact, real and their subsequent strategic framing (see also Hahl, 2016).

These insights also suggest an inherent tension for producers of imitative products: On the one hand, producers of such products have a strong incentive to claim that their imitative offerings are closely aligned on key attributes with a category referent, since similarity to the "real" carries clear advantages, as discussed above. On the other hand, producers of imitation products – just like producers of substitute products generally – must differentiate their products from those of competitors, including producers of both "real" products and other imitations.

Unfortunately, neither the literature on authenticity nor the literature on categories explores or explains how producers of imitative products introduce and frame their products in light of these special conditions and potentially competing goals. In turn, despite the growing prevalence of imitation products, we have little understanding of how producers do and should go about introducing them to the market. In this paper, therefore, I ask how producers

introducing the first imitative versions of an established product frame their offerings, and with what apparent consequences.

Data and Methods

Setting

An ideal setting in which to explore how firms position their imitative products when introducing them to the market would be one in which the "real" is long-established – e.g., consumers understand the referent category and the relevant characteristics of members of this category. In addition, it would be particularly informative to explore a setting when imitations are first introduced since otherwise an investigation might miss the earliest attempts at positioning (and, instead, capture potential modifications informed by these earliest attempts). Finally, an ideal setting would offer multiple imitations introduced at the same time, enabling a comparison of different approaches that producers with imitative products might take. The introduction of the electronic musical organ, which strives to imitate a pipe organ, meets all of these criteria.

The pipe organ is one of the oldest musical instruments, with examples stretching to the 3rd century BC. These instruments make sound via a column of air that vibrates within a pipe. Each pipe sounds a fixed tone, with the shape, material and length of the pipe determining the sound characteristics.

In the mid-16th century, with the growth of the Christian church, pipe organs grew dramatically in number and size. Thus, the largest organs, such as those on which J.S. Bach composed and performed, had thousands of pipes ranging from mere inches to 32-feet in length, connected through a complex series of mechanical linkages to piano-style keys and to "stop"

levers that allow the performer to select particular combinations of pipes to make different sounds. Indeed, for several centuries, the pipe organ was the most complex technological artifact in existence and one, in an era that predated electronic amplifiers, that produced the loudest human-made sounds ever known (Whitney, 2004).

The development and rapid spread of electrification in the United States led multiple inventors to attempt to harness electricity in order to create musical instruments (Nye, 1992). Among the earliest attempts were efforts to create an electric organ – one that would create sound by amplifying electrical current and projecting sound from a loudspeaker, rather than using vibrating columns of air in pipes. (Other electric instruments, like the electric guitar, electric bass, and electric piano, came later.) In 1935, two producers introduced the earliest electric organs.

The Everett Piano Company, founded in 1883, was a manufacturer of pianos. In 1935, they introduced the "Orgatron." This instrument used wind to vibrate metallic reeds and an electrostatic pickup (not unlike that of an electric guitar), which converted these vibrations into changes in electrical voltage. The instrument then amplified this electrical signal. In 1941, the Wurlitzer company, a manufacturer of pianos and of traditional pipe organs, acquired Everett's electronic organ business but retained the "Orgatron" name and technology for their offerings.

Laurens Hammond founded the Hammond Clock Company (later, the Hammond Instrument Company and then the Hammond Organ Company) in 1928 to commercialize his invention of an electric rotary motor. In 1935, he introduced his Hammond Organ, which featured rotating metallic wheels through which an electrical current passed. Differently-shaped notches in these wheels produced different waveforms, which were amplified to produce sound.

Both Everett and Hammond advertised their instruments in leading music magazines (i.e., aimed at musicians) and framed their instruments as imitations of (and substitutes for) traditional pipe organs. The instruments shared some common features and positioning as well. Specifically, both instruments advertised their relative compactness and portability (compared to a pipe organ), and their relative low cost. (The Orgatron initially retailed for $1,800; the Hammond initially retailed for $1,193 but, unlike the self-contained Orgatron, required the additional purchase of an external tone cabinet with an amplifier and speakers.) Yet as my analysis reveals, Everett and Hammond also described their instruments differently.

Data

I began by collecting advertisements from the leading organist magazines of the time – the *Diapason* and *The American Organist.* Specifically, I collected every advertisement for the Orgatron and the Hammond Organ from each monthly issue from 1935 through 1953 – a total of 148. (I use a cutoff date of 1953 since my interest is in the introduction of imitation products. By the early 1950s, imitations were well-established and well-accepted, as evidenced by the fact that an electronic organ first appeared on the cover of *The American Organist* in July 1953.) As I describe below, in the midst of my analysis I found that manufacturers later marketed electronic organs to musical amateurs for home use – a new practice since pipe organs had never been marketed this way. In consulting the Orgatron and Hammond archives (described below), I learned that *Etude* magazine – a more general music magazine oriented towards musicians and music enthusiasts of all sorts, and not just professional organists – was frequently mentioned. Thus, I also captured every ad for the Orgatron and the Hammond in *Etude* magazine, from 1943

(the year of the first *Etude* organ ad) through 1953 – a total of 87. In sum, my ad dataset includes 235 ads from these different sources.

The use of product advertisements is an established practice in research on product positioning and framing (e.g., Anthony et al., 2016; Khaire and Wadhwani 2010; Raffaelli 2019). Specifically, these data enable researchers to assess which features producers choose to highlight, what language they use to describe their products, whom they target, and other reflections of producer framing of product offerings.

To complement the advertisement data, I also collected additional articles from these magazines, such as features and columns that discussed either one of these specific instruments or electronic organs more generally. In addition, I collected data from two archives connected to the Orgatron and the Hammond organ. Specifically, the Smithsonian institution archive includes the corporate records for Wurlitzer corporation (including the records that Wurlitzer acquired from Everett Piano Company regarding the Orgatron). The Chicago History Museum holds the archives for the Hammond Corporation. From these two archives, I copied 900 pages of records, including internal memos, annual reports, minutes from board meetings, sales information, and legal documents.

Analysis

I began by reading third-party sources that described the broad development of the electronic organ and the histories of Hammond and Everett/Wurlitzer, including Eby (1953), Faragher (2011), and Vail (2002). I then used archival sources to assemble case histories for the Orgatron and the Hammond organ. These case histories listed key events for each instrument and

company, such as modifications introduced and, in the case of the Orgatron, the acquisition of the technology by Wurlitzer.

Because my research question is fundamentally concerned with framing, advertisements form the core of my analysis. I initially coded the advertisements from the *Diapason* and *The American Organist* chronologically, thus considering both the Orgatron and the Hammond together. Specifically, I coded for features mentioned or highlighted, adjectives used, specific comparisons to pipe organs, stated target markets and use-case scenarios, and similar indicators of product positioning. In addition, I coded for visual features, including where the instrument was pictured (e.g., alongside an image of a cathedral) and the appearance of the instrument itself, such as decorative features (or not) on the cabinet.

Both my background reading (described above) and my own coding revealed that even as electronic organs initially were positioned as substitutes for professional organists working (primarily) in churches, Hammond also advertised these instruments to other demographics, such as for home use. As noted, I thus added *Etude* magazine advertisements to my sample and I coded all *Etude* advertisements chronologically.

Once I had coded all of the ads and generated my full code list, I clustered codes into groups. For example, I created a group "sounds" for codes that referred to descriptions of the type of sounds (e.g., "diapason," which is a stop on a pipe organ), descriptions of the sounds (e.g., "realistic"), and techniques used to create the sounds (e.g., "the Hammond tonewheel system"). I ultimately generated four groups, which are further described (and examples provided) in my findings: *sounds*, which captures the sounds created, descriptions of these sounds, and description of sound-generation techniques; *use,* which captures who might use the machine (e.g., an amateur or professional), for what purpose (e.g., to accompany singing or for

practice), in what environment (e.g., a church, hotel or home), and via what kinds of interactions (e.g., using standard stops to select sounds, via an "easy-to-use" interface, etc.); *appearance*, including the "solidness" of the case, the use of decorative scrollwork, and the mimicry of a then-contemporary pipe organ instruments; and *social proof,* which captures endorsements, list of adopters (organizations and individuals), mentions of company history or expertise in the music industry, and mentions of conformity to institutional standards use, such as those designated by the American Guild of Organists (AGO). Of course, there was some degree of overlap between codes and groups, as might be expected with rich historical data. For example, conformity to the AGO standard dimensions might influence the appearance and use of an instrument, while also serving as social proof. I thus present the evidence according to these groups, which reflect a higher-level interpretation, rather than rigidly adhering to the assignment of lower-level codes to singular groups.

Finally, I passed through the advertisements chronologically again, but this time considering each instrument separately (e.g., first reading through all Orgatron ads and then reading through all Hammond ads). This exercise enabled me to assess apparent shifts in each manufacturer's framing strategy over time. It also highlighted three distinct time periods within the 1935-1953 timeframe that I consider: 1935-1940 – initial introduction; 1941-1948 – interruption and re-introduction; and 1949-1953 – convergence and maturity.

FINDINGS

I find that Everett/Wurlitzer and Hammond positioned their imitation organs very differently from one another: Everett/Wurlitzer took what I term a "pure" imitative approach, striving to show how their instrument was as similar to the pipe organ as possible. By contrast,

Hammond took what I term an "augmented" approach, mimicking the pipe organ to a large degree (though not as well as the Orgatron) while also pursuing additional sounds and applications beyond those associated with the pipe organ. Ironically, Hammond's relatively less successful imitation enabled Hammond to be more successful as an instrument since deviance from pure mimicry enabled them to open new markets.

The sections that follow are divided into the three time periods that emerged from my analysis. In each section, I first review the positioning of the Everett/Wurlitzer instrument along the four dimensions of comparison that emerged from my analysis. I then examine the positioning of the Hammond along these same dimensions of comparison.

1935-1940 – Initial Introduction

The Everett Orgatron

Advertisements for the Orgatron emphasize the instrument's similarity to a pipe organ along multiple dimensions. For example, a 1936 advertisement quotes an organist as saying that the Orgatron, "Looks, sounds and plays just like my own church organ!" (1936-09b)

Sound

Similarity in sound – "sound" being the organ's defining function – often was at the center of these claims. For example, a 1936 advertisement claimed that the Orgatron "possesses the conventional character and artistic quality of tone to which organists are accustomed" (AO-1936-08e). Another 1936 advertisement reports on the reactions of guests at a musical gathering: "They marveled at the naturalness of the Orgatron tone – they had not known it was possible to achieve organ tone quality in an electronic instrument!" (AO-1936-09b) Yet another

advertisement claims, “Each tone is characteristic of the stop it represents – the flutes, strings, and Diapason tones are excellent” (AO-1938-06a). In addition, the majority of ads for the Orgatron during this time period also included a complete “stop list,” which listed each of the sounds using the same language and following the same approach as a pipe organ.

Even as Orgatron ads highlighted the instrument’s sound similarity to an organ, however, they did not elaborate on *how* the instrument generated this sound. Thus, several ads note that the instrument “employs the Hoschke tone-producing principle,” but without further explanation (AO-1936-09b). (Frederick Hoshke was the inventor of the Orgatron.) Other ads seem to work to minimize the electronic technology at the heart of the instrument. For example, one 1936 ad reads, “Normal, not artificial, tone production methods” and another 1938 ad reads, “Its tones are pipelike and natural, not synthetic” (AO-1938-06a). Indeed, the Orgatron *was* closer to a pipe organ than the Hammond in that it still had a blower for moving air through the instrument to create sound. (In the Orgatron, however, this air activated small reeds fitted with electrical pickups, rather than the moving air itself creating sound, as in the pipe organ.)

Appearance

Just as Orgatron ads highlighted the instrument’s sonic similarity to a pipe organ, they also underscored its similarity in appearance. Indeed, every ad for the Orgatron included a picture of the instrument. Figure 1 shows the console of a typical pipe organ and that of the Orgatron. As is evident, they are very similar – including the solid cabinet, the full 32-note pedalboard that curves up on each end, the multiple “expression” (volume) pedals, and the “stop tabs” used to select different sounds. Orgatron ads highlighted these similarities. For example, a 1936 ad noted, “The console looks like the regulation unit on a large pipe organ” (D-1936-10b).

Similarly, a 1938 ad claimed, “A console that is standard in every particular – the handsomest console thus far produced … Elegant in appearance” (AO-1938-08a). Another 1938 ad quoted the then-organist with the New York Philharmonic Orchestra, “Sincerely impressed by the beauty of this instrument—a small replica of a real pipe organ.” (AO-1938-06a)

[Insert Figure 1 About here]

Use

Advertisements for the Orgatron also emphasized that an organist would play it in exactly the same way as a pipe organ. For example, a 1936 ad claimed that organists could easily pass back-and-forth between the Orgatron and a pipe organ without modifying their technique or the music they played: “Organ literature may be played as written and without the necessity of acquiring a new technique! … Organists and organ students may pass from the Model MD-1 Everett Orgatron to the conventional organ without the slightest difficulty or embarrassment.” (AO-1936-08e). Similarly, another 1936 ad (D-1936-10b) lauded, “A console arrangement familiar to organists and requiring no new technique,” while a 1938 ad described how an organist could expect to interact with the Orgatron: “When the organist sits at the console of the Orgatron, he finds himself … not in a new, mechanistically unfamiliar world … but ‘at home.’ He presses the switch. As he waits a moment, he scans the console, finds familiar-looking stop ‘tabs’ and couplers … quickly sets his combination ... just as he always has done” (AO-1938-12b).

This familiarity for the organist was enhanced by the fact that the Orgatron strove to adhere to established professional standards, including those set by the American Guild of Organists (the largest professional association). Thus, several ads emphasized conformity, as

with a 1936 ad that read, “Measurements and specifications conform to those adopted by the American Guild of Organists for organs in May, 1933” (D-1936-08b) and a 1938 ad that celebrated, “A console that is standard in every particular.” (AO-1938-08a).

Just as Orgatron ads emphasized that organists would interact with the instrument in a familiar and expected way, they also emphasized that the instrument would be used for the same purposes as the pipe organ – namely, for use in churches to accompany singing. For example, one 1936 ad noted, “It is an ideal instrument for the church – large and small – because it performs beautifully for solo, choir, or congregational singing” (AO-1936-10b). Another 1936 ad noted, “It is wholly suitable to the devotional and spiritual requirements of the church and for choir or congregational singing” (D-1936-08b).

Social Proof

Finally, Orgatron ads often featured evidence of “social proof,” meaning mentions of people and organizations intended to reinforce the desirability of the instrument. For example, a 1936 ad noted, “Hundreds of musicians, including scores of organists, were our guests at the Hotel Stevens, in Chicago, at the recent 35th Annual Music Convention.” The ad then includes several anonymous quotes praising the instrument (D-1936-09c). Other ads focus on specific endorsers, such as a 1938 ad that reads, “In the words of the eminent composer and organist, Dr. Alexander Russell, ‘the nearest thing to real organ tone.’” Yet other ads list particular churches that had installed the Orgatron. In addition, the Orgatron’s close adherence to American Guild of Organist standards, described above, may be interpreted as not only influencing the use of the instrument but also suggesting professional legitimacy as a result of this adherence.

Finally, because Everett had been a long-time piano maker before introducing the Orgatron, their ads referenced this history as another benefit of their instrument. For example, a 1936 ad noted, "It is built by a company and in a plant that has made fine musical instruments for more than half a century" (D-1936-09c.) Another 1938 ad noted, "Our company has had a world-wide experience with artists and musicians, and in making musical instruments, for 55 years." (AO-1938-03a).

In short, across a variety of dimensions, Orgatron ads attempted to hue closely to the sound, appearance, and use of the pipe organ, and they showcased how the firm's musical history and professional endorsements reinforced this replication of tradition. As we will see, the Orgatron's close competitor – the Hammond organ – took a rather different approach.

The Hammond Organ

While the Orgatron hued closely to tradition, the Hammond Organ attempted to mimic key characteristics of the pipe organ but also, crucially, to improve on, expand and augment some of these characteristics.

Sound

Beginning with the earliest ads for the Hammond organ, Hammond claimed that the instrument could both imitate the pipe organ *and* create new sounds. For example, a 1935 ad featured the slogan "The organ of a million tones" and boasted that the Hammond "produces the entire range of tone coloring necessary for the rendition, without sacrifice, of the great works of classical organ literature. In addition, it permits many tone colors never before heard on any musical instrument" (AO-1935-05). Similarly, a 1936 ad claimed, "The musician at the

Hammond has at his command not only the tone colors of the conventional organ, but also an infinite range of exquisite tone colors never heard before" (D-1936-04a). Indeed, while ads for the Orgatron emphasized the pipelike-realism of its organ tones, ads for the Hammond emphasized its many tonal possibilities.

This sonic variety was reinforced by, and coupled to, the Hammond's interface. On the Hammond, an organist would push-in/pull-out drawbars with 10-step gradations, which mixed different sound harmonics. This approach differed from the traditional "stop tabs" found on both pipe organs and the Orgatron, and which were labeled with particular sounds. Thus, the Hammond interface, described further below, reinforced the claim that the instrument could make a wide array of sounds; even as it offered "all the familiar organ voices," it also offered "countless interesting new tone colors" (D-1936-12a).

Unlike Everett, Hammond ads also emphasized the novelty of the technology underlying the instrument. For example, a 1935 ad noted, "The Hammond Organ is entirely electric in operation, containing no blowers, wind chests or pipes" (D-1935-11a). A 1936 ad then linked this characteristic to a differentiating advantage over the pipe organ: "It [the Hammond] creates sound electrically, contains no blowers or pipes, never gets out of tune, and is inexpensive to maintain." (D-1936-03a). Thus, while the Orgatron attempted to downplay its use of novel technology, Hammond ads appeared to embrace it.

Appearance

Although the Hammond, like the Orgatron and like mid-sized pipe organs, had two keyboards and a pedal board, it differed in appearance in other respects. As Figure 1 illustrates, the case of the Hammond appeared less "solid," with open sides and skinny piano-like legs. With

the Hammond, the "tone cabinet" (amplifier and speakers) was contained in an external box, too, which further contrasted against the appearance of the pipe organ and Orgatron consoles. Moreover, the Hammond featured just 25 foot-pedals instead of the standard 32 – owing to Laurens Hammond's observation that many organists seemed to not use the top-most pedals and that he could thus save money by leaving them off (Vail, 2002). The bottom octave of keys was reversed-colored, too – with the naturals being black and the sharps being white, instead of the standard vice-versa – owing to the fact that these keys functioned as preset selectors rather than musical keys. Finally, as noted, the Hammond did not have familiar stop tabs. Instead, the console featured numerous drawbars that the organist would adjust in order to create a desired sound.

Together, these different visual characteristics meant that the Hammond did not look nearly as much like a pipe organ console as did the Orgatron. In fact, Hammond themselves recognized this fact and later introduced a variant, the Concert Model E, with a specially-designed cabinet. As one ad read, "The simply Gothic lines of the 'Model E' show up especially well from the back, the view usually seen by church congregations. The dignified, graceful proportions of the new console harmonize with every church interior" (1937-09b). But advertisements for the Concert Model E remained scarce, with fewer than 15-percent of ads in this period referencing this aesthetic variant. Instead, Hammond largely put forth a physical appearance that was imitative, but only imperfectly so compared to the Orgatron.

Use

The Hammond's drawbar interface, unlike the pipe organ and Orgatron's "stop tab" interface, meant that organists had to interact with it differently. Thus, although Hammond

claimed at times that, “The musician plays it as he would any other organ” (D-1936-04a), other ads clearly point to the need to learn a different technique. For example, a 1936 ad stated, “You’ll need very little effort to make yourself thoroughly familiar with the Hammond’s simple technique” (D-1936-12a). A 1937 ad notes, “A very interesting instruction book has been prepared … its purpose is to show the [musician] how to adapt his technique to the Hammond Organ” (D-1937-02a). This book, titled, “Playing the Hammond Organ,” was soon followed by another: “Dictionary of Hammond-Organ Stops: An Introduction to Playing the Hammond Electric Organ and a Translation of Pipe-Organ Stops into Hammond-Organ Number Arrangements” (Irwin, 1939). These ads and books thus acknowledged that organists interacted differently with the Hammond.

The sound-generating mechanism for the Hammond organ – motorized rotating discs instead of the Orgatron’s reeds – also meant that it had an instantaneous “attack,” meaning there was no delay between the musician striking a key and the onset of a sound. This was unlike both the Orgatron and a pipe organ, in which the use of mechanical linkages that open a flap at the bottom of a pipe to let air into the pipe mean that there is a slight delay in the onset of sound and that the attack is slightly (but meaningfully) more gradual. For its part, Hammond played up this characteristic as a feature, not a flaw. For example, a 1937 ad claimed, “The easy and instantaneous action of the Hammond enables the player to produce brilliant staccato passages and repeated notes as effectively as upon the piano – a great advantage over the ordinary pipe organ, in the playing of which there is an appreciable interval of time between the depression of the note and the mission of the sound.” (D-1937-06b) Thus, with this characteristic, as with others, Hammond claimed improvements over the pipe organ rather than pure imitation of it.

Because the Hammond organ was a less pure imitation of a pipe organ, it is not surprising that ads for the instrument rarely call attention to its conformity to AGO standards. In fact, the only ad that mentions conformity to standards is for the Concert Model E organ – the one with an updated case and pedalboard that was rarely advertised – with a single ad noting, "The detachable pedal unit consists of a 32-note concave and radiating clavier. It is built according to A.G.O. standard dimensions." (Of course, the ad does not mention adherence to other standards, such as stop tabs, since even the Concert Model E did not meet them.)

Descriptions of use-case scenarios for the Hammond organ likewise differed from the Orgatron in that Hammond ads not only appealed to the use-case scenario for pipe organs – namely, churches and concert halls – but also suggested additional use-case scenarios. For example, a 1935 advertisement for the Hammond listed not only the names of several churches, but also hotels, restaurants, schools, and mortuaries (D-1935-09b). Similarly, a 1936 ad claimed, "The possibilities of the Hammond Organ transcend limitation to any single class of purchaser. It is superb for churches. It is equally fitting in the smallest apartment. … Musicians and composers buy it for their studios and their homes. Students play it. Schools, lodges, mortuaries, restaurants, hotels – all find in it their musical ideal" (D-1936-01b). In fact, half of ads in which the Hammond is pictured in a building show it in a building other than a church, such as a 1936 Hammond ad that featured a picture of the instrument in a living room with the headline, "A 'Concert' Organ at Home" (D-1936-09b).

Social Proof

Finally, like the Orgatron, Hammond ads relied heavily on indicators of social proof. But unlike the Orgatron, and reflecting Hammond's attempt to appeal to a market beyond the

traditional pipe organ community, Hammond ads featured a wide array adopters and endorsers. For example, a 1935 ad listed both George Gershwin and Henry Ford as Hammond owners (D-1935-09b). Lists of organizations showcased similar diversity. The text of another 1935 ad, for example, noted "61 churches in 17 states bought the Hammond Organ in the past thirty days" but goes on to list numerous non-church purchasers, too, under categories including "mortuaries and cemeteries," "schools and colleges," "hotels, ballrooms and restaurants," "music teachers and conservatories," and "miscellaneous" (D-1935-12a).

In addition, and also in contrast to Everett, Hammond ads almost never mentioned adherence to AGO standards, as noted above—largely because Hammond's imperfect imitation did not adhere to these standards. Also unlike Everett, Hammond was unable to rely on a legacy as a musical instruments company. Thus, no Hammond ads make any mention of the company's history to provide social proof – though the company did change its name from the Hammond Clock Company to the Hammond Instrument Company in 1937, two years after the introduction of the Hammond Organ and a clear sign of where they saw the future of the company.

World War 2 Disruption and Reintroduction (1941-1948)

By 1941, both the Orgatron and the Hammond had sold numerous units. Although detailed sales figures are difficult to obtain, available data indicate that Hammond, in particular, was very successful. Specifically, we know that within a year [by 1936] Hammond had sold 1,400 electric organs and that, according to a company-produced biography of Laurens Hammond (Hammond Organ Company, 1954), they sold more units and generated more revenue than all other kinds of organs sold by all other manufacturers in that same time period. Another internal Hammond company document notes that within four years of the Hammond organ's

introduction, it had sold over 5,000 units, "more than all makes of pipe organs combined." (Hammond Instrument Company, 1939: 1). This same document claims that Hammond outsold Everett "around 10 to 1" (Hammond Instrument Company, 1939: 2).

Both Hammond's and Everett's early sales were paused, however, by the outbreak of World War 2. As the U.S. entered the war in 1941, the government required organ manufacturers – pipe and electronic alike – to retool production for the war effort. Thus, Everett made wooden caskets and Hammond made radio transmitters, alarm clocks, and other devices (Hammond Organ Company, 1954; Hammond Organ Company, 1966). Then, with the end of WW2 in 1945, the companies reintroduced their electronic organs to the market.

Orgatron's Reintroduction

Wurlitzer, an established manufacturer of large pipe organs, acquired Orgatron and all related assets from Everett Piano Company in 1944 (AMICA, 1980). After World War 2 ended in 1945, and the U.S. government allowed production of musical instruments to resume, Wurlitzer reintroduced the Orgatron with the branding of the Wurlitzer Electronic Organ.

Advertisements from the post-WW2 era indicate that Wurlitzer continued Everett's strategy of positioning the instrument as a pure imitation of the pipe organ in terms of sound, appearance, and use. For example, a 1945 ad for the Wurtlizer Orgatron read, "The only electronic organ with true church organ tone" (AO-1945-12), while a 1946 ad similarly reinforced the Orgatron's focus on the church market: "Fully satisfies the musical requirements of churches large and small" (AO-1946-01a).

Wurlitzer did begin advertising its electronic organs in the more general (non-organist-specific) music magazine *Etude* in the post-war period. But these early *Etude* ads primarily

focused on Wurlitzer's other instrument offerings (e.g., pianos) and still placed the organ in a traditional context. For example, a 1946 Wurlitzer ad in *Etude* focuses on the piano, but also includes small pictures and brief mentions of Wurlitzer's accordions, phonographs, and "a great new electronic organ" – the latter pictured in a church (1946_11-Etude). Table 1 provides additional examples of ads from this period reinforcing the purely imitative positioning of the Orgatron.

[Insert Table 1 about here]

Hammond's Response

Like Wurlitzer, Hammond also resumed production of musical instruments following World War 2. Yet Hammond appears to have learned from its practice of targeting a diversity of users and use-case scenarios for their instrument. As noted, Hammond had listed homes as among the many possible applications for their instrument, almost from the outset. According to an internally-produced Hammond history (Hammond Organ Company, 1966), they were surprised, however, at just how many Hammond organs were going into homes and how many amateur musicians were purchasing the organ. As the war was still raging, therefore, Hammond notably increased its focus on the home market. For example, a 1943 ad features a picture of an adolescent boy seated at the Hammond organ in a home environment, while a man and a woman look on. The photo is captioned with the question, "Where else in all the world could a family of average income have the rich enjoyment of owning and playing a musical instrument like the Hammond Organ?" (E-1943-0348)

These home-oriented ads further deviated from pure imitations of the pipe organ as reflected in the sounds, appearance and use described in advertisements. A 1943 ad, for example, emphasized the variety of sounds possible but made no mention of organ-like tones: "there are so many different combinations of tones" (E-1943-05-50). Another ad made a point of distinguished the Hammond's sound creation process from pipe organs: "It creates electrically – without pipes or reeds – a warmth and wealth of color, a thrilling range of tone" (E-1946-08-50).

Similarly, these home-oriented Hammond ads made no reference to the appearance of pipe organs. Instead, they commonly compared the instrument to a spinet (compact/non-grand) piano, an instrument often found in homes. For example, a 1947 Hammond ad read, "It is hardly larger than a spinet piano and is easily moved" (1947_12_Etude) and a 1946 ad challenged readers to, "See how conveniently it will fit into your living room" (1946-02-Etude25-2).

This orientation was reflected in descriptions of the use of the Hammond, too. Specifically, home-oriented ads emphasized ease-of-use as a key characteristic. For example, a 1944 ad claimed, "Perhaps you wonder how you can play beautiful music if, like many others, you have had no training, or have 'let your music go.' Here's the answer!" (E1944-06-23). Another 1944 featured a picture of a middle-aged couple, "Mary and Dan," seated at a Hammond organ. The picture caption noted how they play music "by their own fireside. No, they're not musicians especially. This became their pet hobby only since they got their Hammond organ." The ad goes on to ask, "How is it that average folks, like Mary and Dan, who never studied music very seriously, suddenly find in it so much satisfaction? It's just this: the Hammond Organ makes lovely, satisfying music *easy to play*" (italics in original) (E1944-08-23).

Alongside this emphasis on ease of use, Hammond ads in this period also focused on families as the appropriate uses of the instrument, and they noted how the instrument could be used to perform a wide array of musical styles, not just the classical music and hymns associated with church pipe organs. For example, a 1947 ad claimed, "Whether you play by ear or by note … whether you prefer popular or classical music … even if you're just a beginner – this remarkable instrument will add rich new beauty to anything you play" (1947_12_Etude). Similarly, a 1946 ad read, "Classics, ballads, swing – no matter what kind of music each member of the family prefers, it's easier to play – and sounds better – on the Hammond Organ … You'll find that the youngsters are thrilled by the Hammond Organ … Older folks, too, find that with little or no musical background they can quickly learn to play the Hammond Organ" (1946-02-Etude25-2).

Finally, social proof in these advertisements also emphasized home use. For example, a 1943 Hammond ad noted that already "thousands of families have chosen it as the ideal home musical instrument" (1943-05-Etude). Moreover, every Hammond ad during this period pictured the instrument in a home environment, almost always with a man and a woman next to it, and often with young children, too. The message that it was an instrument for use by families in the home was clear.

Arguably, Hammond was able to discover and exploit this market and framing precisely because, unlike the Orgatron, they had not adhered closely to the pure imitation of the church pipe organ. The home market proved lucrative, too. Hammond's annual reports show revenue climbing from $2.5M in the fiscal year ended March 1947 (the first full fiscal year after production resumed following WW2) to nearly $4M in the fiscal year ended March 1949 – with home organ sales driving the majority of their sales.

Convergence and Maturity (1949-1953)

By 1949, Wurlitzer, too, had realized the tremendous potential of the home market, and both Hammond and Wurlitzer introduced new models that year focused specifically on amateur home users. Hammond and Wurlitzer thus converged on an understanding of the potential of this market and Wurlitzer moved away from its purely imitative approach—at least to an extent. (Importantly, each manufacturer's home and non-home models used the same technology. Thus, the differences were in design, aesthetics, and framing.)

Wurlitzer ads for their home model adopt many of the characteristics of Hammond home-oriented ads from the earlier period. Thus, they emphasize a wide array of sounds (and not just traditional organ sounds), they showcase more piano-like home styling, and, of course, they emphasize use by amateur musicians in the home. A 1949 ad that introduced the Wurlitzer home model is, in fact, remarkable for its parallels to the earlier Hammond ads. For example, the ad claims, "*Easy* to play, too—even for beginners. If you know just a little about playing the piano, you can sit right down and play this Wurlitzer." Continuing, it notes, "Whether it's a gay party tune or the music of the masters, your hands create more than music … a great emotional experience!" (E1949-05-25). Other ads for the Wurlitzer home model emphasized its variety of sounds rather than the organ-like realism of these sounds. For example, one 1951 ad celebrated "a multitude of tonal colors that puts new fun in playing and new joy in music" (E1951-04-02), while another highlighted "Over 1000 different tonal effects" (E1951-05-04). The Wurlitzer home model looked different, too: Like the Hammond organ, it had 25 pedals (rather than 32) and it featured piano-like legs in front. Thus, like Hammond in the earlier period, the new

Wurlitzer home model clearly moved away from a purely imitative approach. Table 2 provides additional examples from ads for the Wurlitzer home organ.

[Insert Table 2 about here]

At the same time, Wurlitzer's ads for its non-home electronic organ continued in the tradition of pure imitation. For example, a 1949 ad claimed that the organ had "Brilliant organ voices, a full and majestic organ ensemble, [and] traditional organ tone" (D1949-10b). Similarly, a 1952 Wurlitzer ad emphasized Wurlitzer's emphasis on both tradition and pipe organ tones: "Wurlitzer's interest in tradition is a pretty natural thing. For years Wurlitzer has been upholding organ tradition in a world of electronics. To this day Wurlitzer Organ has the essentials of true organ tone. It uses reeds, the only natural source of tone in the electronic organ field, activated by wind to produce beautiful tonal voices" (D-1952-11c).

This emphasis on tradition carried over to descriptions of the instrument's appearance, too. For example, a 1950 ad that appeared in both the *Etude* and the *Diapason* read, "Designed by William Sziser, the beautiful console is traditional in appearance and embodies arrangements and playing dimensions that rigidly conform to recommendations of the American Guild of Organists" (D-1950-08c, 1950_11-Etude-1). Perhaps not surprisingly, these instruments were oriented towards traditional pipe-organ uses, too—namely, accompanying church services. For example, a 1952 ad claimed, "The Wurlitzer electronic organ is an authentic church instrument … reverent … the basis of essential beauty in sacred music" (D-1952-2c). Thus, Wurlitzer in this period clearly bifurcated the market for its instruments, adhering to a purely imitative approach for the electronic organ aimed at the traditional market, but adopting an approach much like Hammond's earlier approach for their home-oriented instrument. Again, Table 2 provides additional examples.

Like Wurlitzer, Hammond also differentiated its offerings during this period. Thus, Hammond introduced a model explicitly for the home, and another explicitly for churches. Ads for Hammond's home model, called the Spinet, reinforced and amplified earlier Hammond approaches regarding sounds, appearance and use. For example, the organ's sound is advertised as offering "music's most glorious voice" but makes no reference to a traditional pipe organ tone (1949-12-Etude-27). Another ad celebrates the tone "color and feeling that only *this organ* can provide" (italics added) rather than claiming the color and feeling imitative of a pipe organ (1950-02-Etude-0052).

Similarly, as with earlier Hammond ads oriented towards home use, the instrument looks little like a traditional pipe organ. In fact, according to an internal company history (Hammond Organ Company, 1966), the name Spinet was selected to evoke the home environment because of the prevalence of spinet pianos in the home. In turn, all references to the instrument's appearance concern its fit with within the home environment. For example, a 1949 ad claims that the Hammond "will fit gracefully in your living room" (1949-12-Etude-27), while a 1950 ad notes, "There is a Hammond Organ that will fit handsomely in your living room, large or small" (1950-01-Etude-005). Hammond's continued use of the drawbar system further reinforced its different appearance from a traditional organ.

As noted, the Hammond Spinet also emphasized its use in the home and its ease-of-use. For example, a 1951 touted, "you needn't know music now. … in less than a month you can learn to play simple music on the Hammond Organ." Continuing, the same ad has a subheading reading, "A richer family life," followed by the text, "This is a special Hammond Organ dividend: shared family fun. For this instrument can arouse your children's interest in music. It can give you and your wife a talent for leisure hours" (E1951-04-27). Pictures in the

advertisements reinforced these suggestions, as with a 1949 ad that showed a man, a woman, a young girl and a young boy all gathered around the organ (1949-12-Etude-27). In fact, as evidence of both the envisioned use and social proof, every Hammond Spinet ad shows the instrument in a home environment with a man and a woman (presumably married), and often with children, too.

At the same time, Hammond continued to advertise the Concert Model organ that had a more traditional cabinet and a full pedalboard, and these advertisements showcased much more purely imitative rhetoric than had any of Hammond's previous ads. For example, a 1952 described in detail the organ's imitation of "16 ft., 8 ft., 4 ft., 2 ft., and 1 ft." pipes and claimed that the instrument could "produce the sonority of a reverberative [sic] church building." (D1952-10c). Other ads contained "stop lists," matching that provided for a pipe organ (and in contrast to Hammond's earlier practice of not talking about stops) (D-1950-08d).

The console of this instrument also more closely resembled a traditional organ, while the interface added familiar "stop tablets" and a standard pedalboard. Reflecting on introduction of a standard pedalboard, another 1950 ad noted that the instrument "has a full 32 note radiating and concave pedalboard designed and built to conform exactly to the specifications laid down by the American Guild of Organists. Every detail, such as the precise shape of the sharp pedals, degree of pedalboard concavity and radiation, length of the natural pedals, correct weight of pedal touch, and location of the pedalboard relative to the manuals and expression pedal have been given the utmost attention The result is a pedalboard on which the concert organist feels perfectly at home" (D-1950-10b).

As this quote indicates, advertisements for the Hammond Concert Model emphasized a use-case scenario focused on churches and classical concert applications. For example, a 1952 ad

notes that the instrument "is especially built for the church and concert organist who performs in recital" (D1952-09a). In describing the music to be played on the instrument, yet another 1952 ad listed Franck, Bach, and Widor (all classical composers) with no mention of other musical styles (D-1952-11b).

The social proof offered in these ads reinforced these uses and users. For instance, a 1951 ad noted that Hammonds had "been installed in well over 20,000 churches all over the world during the past fifteen years" (D-1951-07b). Another ad featured recitalist Porter Heaps, noting that more than 30,000 guests had heard his Hammond demonstrations (D-1952-11b).

Thus, both Wurlitzer and Hammond arrived at similar positions with regards to their imitative instruments, ultimately offering both purely imitative models that closely mimicked church-based pipe organs, and home-oriented models that moved away from an imitative rhetoric. But the two manufacturers' paths varied: the Everett/Wurlitzer Orgatron moved from the specific market of pure pipe organ imitation to a broader market; Hammond moved from an initially broad market (positioning the same instrument in different ways, which meant that it was not as pure or "good" of an imitation) to a differentiated market, with different models distinguished on the basis of their pure imitation of the pipe organ (or not).

By 1953, an electronic organ was on the cover of the *American Organist* magazine, signaling the instrument's widespread acceptance. But despite this appearance on a magazine oriented towards professional organists, the home market—which, notably, was far less imitative—was the clear opportunity for electronic organs. For example, by 1955, just 6 years after Hammond introduced its Spinet model, the company had sold more of these home organs than all the other organs it had previously produced over the past 20 years. By 1958, nationwide

organ sales (by Hammond and others) exceeded piano sales, with home instruments driving the vast majority of sales (Hammond Organ Company, 1966: 33).

At the same time, Hammond and Everett/Wurlitzer met very different fortunes. A mid-1950s report from Hammond noted, "Although six other companies now manufacture electronic organs (though none like the Hammond), the Hammond Company continues to do more organ business than all others combined" (Hammond Organ Company, 1954?: p. 46). Indeed, while Hammond sold approximately 500,000 organs between 1935 and 1960 (Farragher, 2011), the Orgatron sold a total of only 10,000 units and was discontinued in the 1960s as Wurlitzer ceded the market to Hammond and newer entrants. Although it is impossible, of course, to draw a causal link between the two pioneers' different approaches to positioning their imitative products, we can certainly observe that Hammond's approach of augmenting to explore new applications rather than pure imitation was consistent with its success. In fact, in 1954, Hammond introduced another variant based on their observation that jazz musicians were using their drawbar instrument to create new sounds—yet another new application. This new Hammond instrument, the model B-3, would go on to become an iconic instrument—the most successful electronic organ ever, the most recorded keyboard instrument in history (aside from the acoustic piano), and the foundation of new genres of jazz, blues, progressive rock and other musical styles far, far removed from the imitation of the church pipe organ (Vail, 2002).

DISCUSSION

In this paper, I explored the introductory framing of an imitative technological product, the electronic organ. I found that even as Everett/Wurlitzer and Hammond introduced their products in the same year, advertised them in the same outlets, and highlighted similar

characteristics (such as relative compactness and low cost), they framed these instruments differently: The Everett/Wurlitzer Orgatron strove to be like the pipe organ that it imitated in every way, while the Hammond Organ strove to both imitate *and augment* key aspects of the pipe organ. Ironically, precisely because the Orgatron was a purer imitation, it was less successful; Hammond's augmenting approach – characterized, for example, by exploring new applications from the outset and not hewing too closely to tradition – enabled it to identify and exploit new markets more rapidly (and, ultimately, more successfully) than Everett/Wurlitzer.

My study enhances our understanding of imitation in product markets, of the strategies underlying market entry and new market development, and of the role of authenticity for imitative products. I elaborate on each of these contributions below.

Imitation in Product Markets

In their review of the literature on imitation, Posen and colleagues (Posen et al., 2022) describe the main foci of existing studies: the ease of imitation, the kinds of firms that imitate, the role of uncertainty in driving firm-level imitation, and the singularity of imitation strategies. As Posen et al. note, most of this literature also focuses on firms imitating one another.

My study enhances our understanding of imitative products, specifically, and of how firms may introduce and frame such products. In particular, my findings surface what might be termed the "paradox of imitation": particularly good ("pure") imitations can bind an imitative product to the expectations that surround "real" products in the same category, thus challenging efforts to move into new markets that are not aligned with these expectations. In the case of the electronic organ, centuries of experience stated that organs were for use by professional musicians to play classical music in church settings. In turn, to the extent that the Orgatron was a

more pure imitation of the organ, it also was challenged to move away from these expectations. In fact, the very differentiators that Orgatron built up against its imitative rival, the Hammond – such as its pure organ tone and traditional cabinet – proved unhelpful in a new amateur home market that seemed to place little value on these characteristics. One lesson to be gleaned, therefore, is that a rational strategy in imitative markets may be to *not* be too imitative.

Of course, the extent to which this anchoring is a liability depends very much on the market dynamics within both the market for the "real" product and the potential new market(s) opened by imitation. The electronic organ may have encountered a "perfect storm" in that the real organ had been around for centuries and the industry was stable (though still growing owing to population growth and religiosity in the U.S.). At the same time, the post-World War 2 economic boom (and the associated growth of the "baby boomer" generation) undoubtedly supported the growing home market. It is plausible that if these conditions differed – e.g., if the organ industry were unstable and the economy on different footing – then the Orgatron's approach of pure imitation may have been more successful.

That said, prior work suggests that imitations opening new markets may be the rule more so than the exception because imitations often spur complementary developments. In fact, as March (2010, p. 20) wrote, "Imitation probably represents the majority of what is normally called innovation." Similarly, Posen and colleagues (Posen et al., 2022) emphasize how imitation can fuel innovation. (See also, Cohen and Levinthal, 1990; Levitt, 1966.) For example, attempts at imitation plant-based meat have spurred great advances in chemistry, which have application elsewhere. Similarly, the electronic organ by virtue of its relative compactness and mass-manufacturability, opened a new business model whereby manufacturers could open showrooms to display and sell their products (as both Wurlitzer and Hammond did)—an impossibility with

large custom-manufactured pipe organs. In turn, showroom-based music stores persist to this day, albeit in an evolved format. These imitation-spurred innovations thus increase the likelihood that imitations also will open new markets.

At the same time, the particular characteristics of the "real" that an imitation product imitates can vary substantially, reflecting the fact all products have multiple different characteristics. In the case of the electronic organ, for example, my coding revealed imitation of sounds, use, and appearance. Sound might be considered the core functionality of the organ. (If the instrument does not make a sound, it cannot be an organ.) Use, as my findings highlight, may capture both a user's interactions with a product as well as the applications to which a product may be applied. And appearance reflects the aesthetic characteristics of a product (e.g., Krabbe and Grodal, 2020). Of course, other settings may surface other primary characteristics, including any of the other five senses (e.g., taste or feel) or more abstract characteristics, such as manufacturing process. Moreover, these different characteristics may interact. For example, a "traditional" appearance may also suggest a more traditional use.

Ultimately, the imitated characteristic(s) both shape and reflect the explicit comparisons that consumers make between imitative products and real ones. This comparative process thus bears similarity to the analogical process by which consumers make comparisons between, and sense of, new and existing products. For example, Bingham and Kahl (2013) describe how early computer users could interpret this new technology as a "machine" or as a "brain" and how these analogies shaped their expectations and use of the computer. Similarly, products that are explicit imitations of the real may emphasize different characteristics as the basis of imitation, and consumers may thus interpret them accordingly. Yet clearly, further work is needed to understand how and when imitative products emphasize these different characteristics.

Collectively, these considerations both respond to and reinforce Posen et al.'s (2022) call for further research into the "tradeoffs and tensions in imitation."

Market Entry and New Market Development

The contrasting experiences of the Orgatron and the Hammond organ also hold implications for the literature on market entry and new market development. Conventional wisdom for new entrants holds that they should pursue a niche (Autio, 2017; Bhide, 1994; Echols and Tsai, 2005; Noy, 2010; Porter, 1980). This is because pursuing a niche enables an entrant to focus its limited resources (Bhide, 1994; Noy, 2010), thus maximizing their impact on the selected niche. Moreover, established incumbents may overlook niche markets, thus reducing the direct competition that a new entrant faces (Carroll, 1985; Noy, 2010). This advice, however, does not align with Hammond's success, suggesting that different dynamics may apply in the case of imitation markets.

Specifically, as my findings highlight, Hammond initially positioned its product broadly, attempting to appeal not only to professional organists in churches, but also hotels, funeral homes, restaurants and amateurs for home use. In other words, Hammond did not pursue a singular niche, but instead pursued multiple markets simultaneously – one of which (churches) was the core mainstream market and others of which were decidedly experimental. As Hammond determined which of these markets was most attractive, it then developed specialty products to address these individual niches (such as the Hammond home spinet and the Hammond concert model). In this way, Hammond used a singular product to engage in broad market experimentation, and then pursued multiple niches simultaneously. Their approach thus treated the core imitative product itself as a "minimum viable product" that tested product-market fit

(Shepherd and Gruber, 2021), and then directed Hammond as to when and where it made sense to invest further.

More generally, Hammond's experience, and success, emphasizes entrepreneurial experimentation over resource conservation (c.f., Brown and Eisenhardt, 1997; Eisenhardt, Furr and Bingham, 2010; McDonald and Eisenhardt, 2020). Indeed, to the extent that success with an imitation is a matter of finding the "real" market and not simply duplicating the existing one—as was the case with the electronic organ—experimentation is key. At the same time, this practice may again reflect the particulars of this case—specifically, both the importance of experimentation and the relatively low resource requirements *to* experiment. (Recall that a common reason that the literature encourages firms introducing a new product to pursue a singular niche is that they are resource constrained. Thus, a niche strategy enables them to devote all of their limited resources to greater, though narrower, effect.) Hammond's pursuit of multiple niches required few resources – primarily, a new cabinet and pedalboard, a modified layout and, perhaps most important, the use of different framing in advertisements. But fundamentally, each Hammond organ had the same technology "innards" and experimentation therefore was relatively low cost. By contrast, in cases where the pursuit of multiple markets simultaneously requires substantially more resources, this dynamic may differ. Moreover, it is possible that the pursuit of multiple markets for an imitation raises concerns about authenticity – a point I consider in the section below.

Authenticity and Categories

The literatures on both authenticity and categories highlight the advantages of being perceived as authentic and as a clear member of a category (Beverland, 2005; Hsu, 2006;

O'Connor et al., 2017; Verhaal et al., 2017; Zuckerman, 1999) My study, however, unveils how imitative products can complicate this calculus. By definition, imitative products are not "real." They can thus bring into conversation two different aspects of authenticity. Lehman et al. (2019) note that something can be authentic if it is perceived to be a "real" something. But it also can be authentic if it seems true to itself – i.e., if there is consistency between its claims and reality. Thus, imitative products may shift the basis of consumer's authenticity judgements from "real" to "consistent." In turn, both the Hammond and the Orgatron were authentic to the extent that they acknowledged that they were *not* real – and simultaneously inauthentic in that they *were* not real.

Many studies on authenticity also implicate consistency with the past and, specifically, with both the identity and expectations tied to the past. For example, Hatch and Schultz (2017) investigate how the Carlsberg Group simultaneously interpreted, leveraged, and were constrained by history as they used a historical artifact. Similarly, Ravasi and colleagues (2019) explore how organizations' histories, evident in part in their corporate museums, shape their contemporary identities and serve to legitimate (or not) particular actions.

Here, Hammond and Orgatron again provide an instructive case: Orgatron could – and did – claim a tie to the musical past; under Everett, ads emphasized Everett's long history as a piano manufacturer, and under Wurlitzer, ads emphasized Wurlitzer's experience as a pipe organ builder. By contrast, Hammond had a very brief history as a company, and that history was tied to clocks, not musical instruments. But history can be a double-edged sword, constraining options (precisely because of expectations of historical alignment) even as it provides an authenticity boost. When imitative products open new markets, as was the case with the electronic organ, this constraint may become more salient. In fact, the religious setting of the

traditional pipe organ provides another interesting overlay on this mechanism. Because the organ was so closely associated with the church and because the church has its own long history, imitations more closely tied to the organ (Orgatron) may have found it particularly challenging to break away from this association. Thus, on occasions in which the best path for an imitative product is one that breaks from the "real" product, history may be a liability rather than an authenticity boost – and, of course, vice versa.

Finally, my study unveils how imitations may be a key mechanism for category expansion. Much of the literature on category change has focused on how different actors within a category lead to its expansion. For example, Jones and colleagues (2012) describe how different subgroups of architects emphasized different concepts during a period of "category expansion," ultimately leading to the emergence of the category of modern architecture. Similarly, Innis (2022) documents how jazz fusion emerged from the incorporation of rock instrumentation into the jazz category. These processes thus reflect Lounsbury and Rao's (2005, p. 990) contention that "product categories are fragile cognitive structures that can be brought down when there is high performance variability and new entrants embody variations and disturb the status quo."

As my study illustrates, the category of "organ" expanded, too – as evident in the fact that the imitation organ—long modified with the adjective "electronic" (as opposed to just organ)—appears to have been accepted as a full member of the "organ" category. Yet the mechanism of expansion is different. For organs, the analog to the category expansion process described by Jones et al. (2012), Innis (2022) and others would be found in pipe organ manufacturers adding new capabilities to pipe organs, thus leading to an expanded understanding of what constitutes an organ. Instead, however, the case of electronic organs uncovers how categories also may expand

by introducing adjacent imitative products and then, upon their acceptance, merging them into the dominant existing category.

At the same time, this observation raises additional questions. For example, despite the Organtron's limited success, how important was this imitative action by an established musical instrument manufacturer to the ultimate acceptance and success of the electronic organ? Could Hammond, as an outsider, have achieved the same success were it the lone imitative entrant? Moreover, how do the new uses for the organ (e.g., by amateurs in the home) interact with interpretations of category members among dominant users (e.g., professionals in the church)? These and other questions signal important future research opportunities.

Conclusion

Imitative products have found wide distribution and success across an array of industries and markets. Yet they also pose a fundamental challenge to producers – how to position them upon introduction so as to closely replicate core value proposition of the "real" product, while also differentiating from the competition. This study highlights the different approaches that manufacturers may take and the ironic finding that the path to success may lie in being a lesser imitation. Yet given the wide array of imitative products – and the drive for economic, environmental and political reasons to find even more – the time is ripe for further investigation.

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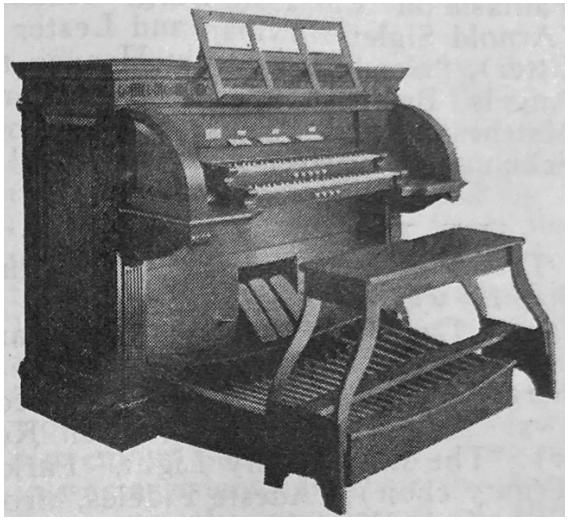
FIGURE 1

Comparison of organ appearance. Note that compared to the pipe organ and the Orgatron, the Hammond uses drawbars rather than stop tabs, features a much sparser console with an "open" design, and has fewer foot pedals and a pedalboard that is flat rather than radiating (curved upward on the ends)

Frazee pipe organ console
(typical of the era) (D-1934-12)



Everett Orgatron (AO-1936-08e)

Hammond Organ (D-1935-10c)

Closeup of stop tab system (above keyboard)

Closeup of drawbar system

TABLE 1
Additional evidence of Orgatron and Hammond framing in the WW2 Disruption and Reintroduction Period (1941-1948)

	Orgatron	*Hammond*
Sound	It provides rich, reverent churchly tone (AO-1946-01a) It draws its stops from the four traditional tone families (D-1948-06a) Its tone quality is rich and natural. Because it uses wind pressure its tonal response is traditionally soft and smooth. (AO-1948-07-19) On it you will find such additional conventional organ features as the Voix Celeste, String Mixture, Tremulant and Organ Ensemble (D-1948-11a)	Here are tone colors and effects that encompass the entire range of musical composition—dramatic crescendos—tenuous, silver-toned whispers—seemingly endless combinations to fit every musical mood. (E1945-10-50) It produces all its tones electrically. (E1945-04-28) You'll hear the mellow notes of woodwinds, the boldness of brasses, the tender sigh of strings lending richness and color to any piece you play. … the vast range of tone and wealth of color of the Hammond Organ do more than glorify your music. They *encourage* you to play. (E1947-08-25)
Appearance	…an instrument possessing all of the traditional characteristics of design and tone so long associated with the Orgatron (AO-1945-12) Finished in hand-rubbed natural walnut, it consists of two manuals and Pedal Clavier. It confirms rigidly to the console arrangements and playing dimensions recommended by the American Guild of Organists (D-1948-09b)	So compactly designed it fits into a four-foot square. (E1946-06-25) It fits almost any room, because it is hardly larger than a spinet piano. (E1948-08-25)
Use	For many years, churches of every size and denomination have found that the Orgatron fully satisfies the musical requirements of their services (AO-1946-01a) On it organ literature may be played as written (D-1948-06a)	Yes, even if you are a novice, you will delight in playing the Hammond Organ. (E1944-02-23) It's the perfect instrument for the whole family (1946-04-Etude25) And it's so easy! You may be an accomplished musician or just a beginner. You may play by ear or by note. You may prefer classics or ballads or hymns. It doesn't matter. If you can play even simple music on the piano, you can play the Hammond Organ. (E1948-06-25)
Social Proof	Wurlitzer has long been an outstanding name in the organ field. Over a period of many years, Wurlitzer manufactured and sold thousands of "mighty Wurlitzer" pipe organ which were distributed all over the world (D-1945-06a) You'll find its console arrangement and playing dimensions confirm rigidly to American Guild of Organists' recommendations (D-1948-07b) Wurlitzer's broad experience in electronics and the building of fine musical instruments (AO-1948-07-19)	Thousands of families now enjoy this greater pleasure in home music-making. Why not *you*? (E1945-04-48) It has been brining enjoyment to thousands of homes for many years. It is an instrument you'll be *proud* to have in *your* home. (E1947-02-25) It has long been used and acclaimed by the world's most eminent musicians. (E1947-12)

TABLE 2
Additional evidence of Orgatron and Hammond framing in the Convergence and Maturity Period (1949-1953)

	Wurlitzer Home Organ	*Wurlitzer 20 Series*	*Hammond Spinet*	*Hammond Concert Model*
Sound	It's almost like leading an orchestra! At a touch of your finger, you hear the piccolo, the clarinet, the fife…the other brilliant and beautiful orchestral voices that round out the majestic full organ ensemble of this remarkable new instrument. (E1949-10-26) A range of more than 1000 different tonal colors. (E1950-03-04)	…the full majestic beauty of the organ ensemble is truly a triumph in electronics (E1950-08-04) …with great range of rich organ tone and solo voices … the basis of essential beauty in sacred music (D1952-02c)	Speaking with a depth of expression and a wealth of color no other instrument can give you. (E1949-02-27) You create your own music on the Hammond Organ: warm, colorful, bold, quiet, simple, rich. Music to fit your mood and renew you for your role in life. All the sounds of great music – from the whisper of the strings to the board of the brasses—leap to life beneath your fingertips (E1951-03-27)	inherent tonal accuracy for … playing a massive Bach fugue or a tenuous Karg-Elett Pastel"(D-1949-11c). A beautiful 'naturalness' is thereby maintained in all the organ tones (D-1950-02c). Each manual of this remarkable instrument is provided with quint, nazard, tierce, and larigot mutations [all traditional pipe organ stops] of absolutely pure tone quality. (D-1951-10c)
Appearance	Takes up no more space than a small piano. (E1949-10-26) Fits into a corner of a small living room. (E1950-03-04) A 25-note pedal keyboard for your feet (E1951-04-02) Exquisite furniture, too. (E1951-11-04)	The exact playing dimensions recommended by the American Guild of Organists (D1949-10b) Playing dimensions of this fine instrument conform rigidly to recommendations of the American Guild of Organists…Standard 32-note concave and radiating pedal clavier. (E1950-05-04)	No larger than a spinet piano, the Hammond Organ fits beautifully into either a large or small home. (E1949-11-03) …fit any home. (E1952-05-27)	Most all organs nowadays have a generally neat console appearance with two manuals of keys, a pedalboard, and a nicely arranged system of registration controls (D-1952-07a)

TABLE 2 (cont.)
Additional Evidence of Orgatron and Hammond Framing in the Convergence and Maturity Period (1949-1953)

	Wurlitzer Home Organ	*Wurlitzer 20 Series*	*Hammond Spinet*	*Hammond Concert Model*
Use	*Easy to play.* (E1949-10-26) Equally well fitted for either classical or popular music (D1949-10b) Music of the masters, or music of the moment—play either, play both on this new Wurlitzer Organ. Even if you've never played an organ before, you'll find this one easy to "get on to." (E1951-04-02) So easy to play, you can teach yourself. (E1951-05-04) A musical instrument the whole family can enjoy (E1951-11-04)	Provides a fine musical background for religious convocations, student assemblies, and community gatherings (E1950-05-04) …the ageless traditional music of the Church performed with unusual beauty on new Wurlitzer Organs (E1950-10-01)	Think what this can mean to your children. They can learn great music by playing it themselves on the Hammond Organ. (E1949-06-25) Whether or not you know music needn't disturb you. You can quickly and easily learn to play the Hammond Organ. (E1950-01-54)	designed especially for the church and recital organist who is interested in performing all of the great historical as well as modern organ works. (1950) The Concert Model Hammond Organ is a 'straight' organ in the *strictest* sense as attested by playing a Bach fugue with both hands on the same manual and listening for the clarity of part movement."(D1952-03b)
Social Proof	"After playing the 'Mighty Wurlitzer' [pipe organ] at Radio City Music Hall for the past seventeen years," says Dick Leibert, "I've naturally acquired a great deal of respect for Wurlitzer performance and the Wurlitzer name." (E1950-03-04)	Tonal qualities and range of expression are endorsed by professional organists everywhere (E1950-05-04) The first electronic organ ever permitted in the Vatican (E1950-10-01) …22 centuries of tradition behind the organ you play (D1953-12b)	Used in more homes than any other organ (E1949-11-03) You draw friends closer, too, for music like this says, "Welcome, join the fun and be a part of it!" (E1951-09-26)	…best attested by asking any of the many tens of thousands of church organists who are playing the Hammond all over the world" (D-1951-11c) The Concert Model Hammond Organ is receiving great acclaim among leading concert organists (D-1952-08c)