2.1.3 Short history of design in business

This section covers a short non-consensual history of design, covering design in business in the US from the past to present, and ends up with a theory of why design might have slowed its progression in American corporate world in the last 30 years. We also explore the career of 3 proto design leaders and the impact they had, while finding elements that connect them and explain their success.

This is not an exhaustive history of design, there are plenty of recognized design history books, many of them with a focus on design in business. Our intention is to recognize that history and remind ourselves that there isn't a single truth about this or any other history. Trummer in a volume commemorating forty five years of the Design Management Institute (Trumer et al., 2020, 31.1, p.11), , proposes a short history of design, from the early 20th century traditions such as Arts & Crafts, Art Noveau and German Werkebund, to formalization of the discipline in academic settings with the Bauhaus in 1919, during and after the second world war with a number of designers and brands that benefited from leadership that understood the importance of design to the bottom line. The 1980's brought in postmodernism and questioned "good design" by introducing ornament and symbolism, impacting the number of companies embracing design beyond aesthetics, and since the 90's it's been all about the Internet and impact it has had on society, business and design.

But the history of design itself is far from consensual. In 1993 a design History Seminar held in Washington D.C. organized by the editors of the Design Issues Journal, where a number of fields were represented (philosophy, sociology, history

of technology, history of art, material culture studies, design education, and others), it became quite apparent that there was a clear lack of consensus around the history of design. That later led to an entire number (volume 11, number 1) in 1995 dedicated to the topic, the issue starts off with a number of arguments and counter-arguments between Victor Margolin and Adrian Forty and includes a number of where several renown authors from the many different perspectives came together to present what could be understood as either a pluralism of reasonable alternatives on the topic, or a structural lack of agreement on the history of design. Much of the arguments, going back to Nikolaus Pevsner's "Pioneers of Modern Design" first published in 1936, are focused on what should the history of design be focusing on, the boundaries for design history, and on a discussion if indeed the focus should be on design history or design studies. While this may be seen as an academic debate, much of it is seeded in the practice and impact of design in industry and in business, and one could argue that this lack of agreement between academics might be at the core of what we describe as a lack of boundaries in design today, leading to a wide and disperse range of opinions and definitions of design.

In 1988 Peter Lawrence, one of our interviewees, founder of the DMI design Management Institute and the Corporate design Foundation (Lawrence, 1988, Corporate Board July/August p.56) stated that design was a corporate asset requiring management like any other asset, commenting on the fact that many executives still treated design as superficial and expendable and suggesting designers need to participate in the customer research process. Though very influenced by a very physical product view of the world (the digital revolution hadn't kicked off yet) and therefore of Industrial design, the article uses a number of examples and success cases from Sony to Xerox and to the Ford Motor Company, making a case for design in large corporations as a necessity, and calling out that lack of attention to design in the management literature and education, as well as in companies (p.58). Peter Lawrence ends he article with 5 suggestions to companies that want to ensure they are using design as effectively as possible (summary):

- First, put someone very senior in charge of the company's design investment. He or she should have direct access to the CEO.
- Second, visually audit all the things that the company is producing, then review the design process that produced them. Do the products, bro-chures, advertising, etc., communicate an appro-priate image of the corporation?
- Third, ensure that the resources are in place to achieve the highest level of design for the com-pany-whether in-house design groups or outside design consultants. Using the best designers is extremely important.
- Fourth, use designers to serve your customers. Whether you are a manufacturing or service organi-zation, ensure that industrial designers, graphic designers, and ergonomics people are applied to your interface with the public, whether a machine, a package, or a product.
- And finally, ensure there is an effective and on-going link between the objectives and strategies of the corporation and the design resource. It is not enough to have designers; they must be connected to the purpose and goals of the organization so that they can serve those as effectively as possible.

In the Spring 2006 edition of the Design Management Review 'Time for Design', the authors point out that design is, again, missing in management training and that business does not understand design adequately, "Design is hardly the core of any management training—or its practice. In fact, it's not clear that we even agree on what design means. The problem runs deep. It's not that design is ignored in management so much as it is assumed, implicitly, in a particularly narrow way. design is something that happens to products; or it's equated with some kind of über-planning and analysis. Business needs to develop a deeper understanding of what constitutes design" (Liedtka J., Mintzberg H., Design management Review, 2006, p.25). The article is a great design masterclass for business managers, talks about the need for expertise, insights, engagement and adaptability, quotes Herbert Simon, an eminent business-school thinker who said in 1978 that "design is not a metaphor for management, but the very essence of it". It also provides a framework to understand some of design tensions, by relating it to the nomenclature of design as a noun and a verb and to

Designer/ Designing/ Design. Interestingly enough, these tensions reflect core beliefs and behaviours as well as biases and assumptions that we use later on to map out one of the insights impacting the scarcity of designers in executive positions, designer **Ethos** 'Table 6'.

Table 6 - Design Tensions, Liedtka et al, 2006 (summary). José dos Santos 2020

The Designer Tension: Who Designs?	The paradox around deciding who designs involves the apparent trade-off between a reliance on experts and visionaries capable of radically innovative—but potentially difficult to implement —solutions versus a reliance on users with a tendency to produce me-too designs that they enthusiastically execute.
The Designing Tension: How Designing Happens	Business leaders seeking better design thinking should pay careful attention to the challenges of preventing premature consensus emerging in the face of fear of chaos, and of maintaining the fluidity that is a prerequisite for breakthrough designs. Conversational design challenges leaders in ways that formulaic and visionary design do not. Business cultures that center on hierarchy, expediency, and authoritarian leadership get in the way of good conversations.
The Design Tension: When Is Designing Done?	The dilemma in all designing is how designs can adapt yet preserve their integrity. In other words, how can designing deal with change and continuity concurrently? At the extremes, there is no problem. Never can we not close or not adapt. So we do both, alternately.

Thirty-one years after Peter Lawrence's article and thirteen years later the Liedtka and Mintzberg article, Mckinsey in 2020 issues a report entitled 'Are You Asking Enough of Your design Leaders' and Fast Company resumed the summary in this way:

> *Design has finally gotten its due. For years, designers complained that they needed to be brought into the C-suite to make strategic decisions alongside CEOs and CMOs. That has happened over the past five years, as 40 of the top 100 companies hired a chief design officer (CDO). But now there's a new problem. According to a massive new study conducted by McKinsey, just about nobody knows what a chief design officer is actually supposed to do. McKinsey analysed 1,700 companies and conducted interviews with 200 senior design leaders and 100 CEOs. The key discovery? A few companies have empowered design leaders in the C-suite (and previous research shows that design-led companies have 32% more revenue than other companies). But at most companies, heads of design are ineffectively, and confusingly, integrated into C-Suites.*

So, one wonders what has actually happened in the last thirty years since Peter Lawrence discussed the value of design in business.

The corresponding author has a theory, three decades ago, U.S. producers began manufacturing and sourcing in China for one reason: cost. With delocalization of manufacturing to other countries and lowering of cost to lower and lower levels, design (and art, and architecture) was no more a necessity but a luxury, and while in some cases there was an attempt to have it designed in one place and manufactured in another, the manufacturing side of things started to offer 'good enough' design and cost management again ended centralizing all activities elsewhere. This accounts for manufacturing companies, may not apply to companies that were born digital like Facebook and Google.

With the trend toward localization of manufacturing again, or just bringing it closer (onshoring and nearshoring), cost will go up and products will have to become more expensive to consumers, and this is where design might end up playing a role again, in defining aesthetics, quality, real and perception of value that justifies higher cost. Quantities might be more limited also, because countries will also enforce a 'made here' implicit policy, which will work for countries with large enough consumption markets, but smaller countries/ markets will have to stick together to have minimum quantity to justify manufacturing locally.

The term "industrial design" first appeared in America in 1919, but it was only when a generation of young designers emerged as industrial designers, among them Raymond Loewy, Walter Dorwin Teague, Henry Dreyfuss, Norman Bel Geddes, and Egmont Arens, that the discipline gained legitimacy. Carroll Gantz, an IDSA Fellow and former President of the IDSA, wrote many articles and at least 2 books about the history of the field. In his book, "Founders of American Industrial Design" he notes that "In June 1936, Carnegie Tech graduated the 1st 5 students ever to receive a college degree in Industrial design" (Gantz, 2014, p.85) He does not state whether it was a 4-year program or something less, but certainly, by the mid-30's programs had begun. Many other programs followed at different institutions around the country. Pratt Institute in NY had graduates in 1939 from a 3-year program. The University of Illinois established a BFA in 1937. The California Graduate School of design in Pasadena opened a 2-year program that

same year, the 1st in the country offering a master's degree in Industrial design. Cranbrook Academy of Art in Detroit began a program in 1937 as well. This means that we have more than 80 years of design education in the US, it is important we recognize some of the proto design leaders in large corporations, and describe the work and impact they had in design leadership in US large corporations. The reality is that design leadership can come in many forms, and even if there was ever a claim for the existence of Chief Design Officers, there are many different types of CDO's, many different ways to exercise the role and influence of the CDO.

We have decided to focus on three of these proto design leaders, though it is not our intention to write a biography of each of these personalities but approach their relationship with a specific company and many times a CEO and a C-Suite. This is the case of **Sara Little Turnbull** and 3M, **Henry Dreyfuss** and the Deere & Company, **Elliot Noyes** and IBM. The objective here is to unveil different realities and styles of design management, understand them in context and take whatever learning we might from it. It is also a way to reflect on the fact that what we are seeing today in many large corporations is in fact very close to what existed forty and 60 years ago, leading to the ever-present question on how much have we really evolved with design in large corporations in the US.

Sara Little Turnbull was born in 1917 and grew up in Brooklyn as the youngest of a Russian immigrant family of very sparse means. This early experience shaped the rest of her life and career. She attended Parsons School of design on a full scholarship. Using her insatiable curiosity allied with a multi-dimensional approach, Sara developed a keen sense for design with a small "d" because she didn't think design was to be practiced by an elite few tucked away in some remote studio. She was a pioneer of engaging the end-user in context, in their homes, out in the world (she was an avid collector, and a detailed archiver). Her goal was to demystify design. She established long-lasting relationships with Fortune 100 corporations such as Corning Glass, General Mills, Ford, Coca-Cola, NASA, Procter and Gamble, and 3M, where she was hired as a design consultant in 1958, a relationship that lasted several decades.

Her legacy is thankfully revitalized (including the history of her impact on the infamous N95 medical mask) by the Center for Design Institute. They are the custodians of Sara Little Turnbull's vast collection and archive. In a conversation with its President, Larry Eisenbach, he described how Sara "is a prototype of the way design should be influencing corporations. She used design strategically while helping people to see and teach them to ask why and to uncover the underlying influences and facts. People might have felt uncomfortable because she wasn't a discipline specialist; she was a generalist."

There was a moment in time where Sara addressed the 3M decision-makers with a pitch entitled "Who am I," and clearly stated what she could do for 3M, what she had accomplished for others, and ended with an enigmatic "what will it cost 3M." This is used as a great example of Sara knowing very well who she was and addressing decision-makers in a language that they could embrace. As an example of Sara's effectiveness, Amy Chen, a Center for design Board Director anecdotally recalled another company's senior VP writing to Sara on her retirement and observing, "Others may not have a clue what you did, but they understood the fact that you added several billion dollars to our sales and profits."

Sara was a 4'11" woman in a world of men, but that did not seem to intimidate her, on the contrary, she navigated the Board and engaged with CEO's one on one, using her ability to translate abstract and innovative concepts into a compass for business managers. As described by Amy Chen, "The CEO would tell a division manager that they needed to include Sara in an important meeting. The manager knew that Sara was a designer and thought, 'I don't have to talk to her, she's in design.' In addition to being very astute in many product areas and manufacturing practices, Sara was a great listener, and she would ask questions to get to the essence of WHY? Her job was to teach them how to see and how to think like a designer. On leaving the meeting, they would have a whole different perspective on what they were trying to do."

Her Title: The secret weapon

A phrase to remember: "The job of designers is to establish order out of chaos, essentially out of all the different variables, all the different possibilities, a designer's job is to create order."

Three qualities: Generalist, Humanist, Navigator

Henry Dreyfuss FIDSA is a past President of the IDSA (1965) and the organization recognizes him as one of their Chairmen Emeriti, they have a concise but thorough biography of Henry Dreyfuss in their site (IDSA, 1975), and it covers his work from the nineteen twenties to his death in 1972, touching companies and brands such as Bell Laboratories, General Electric, Hoover, Honeywell, Polaroid and the Deere & Company among others. He is a large corporation, large project designer and had a huge impact in the design profession in the United States. Deere & Company was founded in 1837, it is a well-known design-oriented company, in an area where some would argue design would not be a core function (farm equipment). An in-house design service for graphic design was established around the turn of the century, and hired Henry Dreyfuss as a design consultant for its tractors in 1936. In 1957 William Hewitt (President from 1955 to 1964), hired Eero Saarinen to design their new headquarters in Moline IL, a building that still stands today as one of Eero's finest functional buildings, but by then henry Dreyfuss had been working with Deere & Company for 25 years, in its products, facilities, even stationary, he was the one to suggest Eero to William Hewitt . In research carried out by Peter Lawrence, President of the Corporate Design Foundation in 1987, Gordon Millar, Vice President of Engineering for Deere & Company, explained the role of Henry Dreyfuss in the organization:

> *Now the coordination of form and function and styling is handled through the Dreyfuss Organization. They serve as a consultant but it's a very powerful role because nobody fools around much with what they recommend, although there is' not a corporate edict saying they have to be used.*
>
> *The relationship works in a very positive way and we have an exceptionally fine and long-standing relationship with them. It started out with Henry Dreyfuss, through our Chairman's office, and he influenced the motivation in our company to a greater degree, not only in style and form and colour and things of that nature but in pressing the limits of technology for our class of equipment. He was very much in favour of that and did an*

awful lot to foster that within our company. His associates have carried on in that tradition.

The advantage of it at the beginning was because we were so very much decentralized. To show you how far it went, we were so decentralized that one engineering department couldn't get into another engineering department without a special pass. So, this (using Dreyfuss) was a way by which the top officer, our Chairman, could influence the design of the product and that was why it was so terribly powerful at the beginning… It provides a dimension you don't have when you have a captive organization ... They do provide a basis for the family resemblance of our machines through-out the world ... and in years gone by they clearly provided a communications function.

Henry Dreyfuss began his formal studies as a 16-year-old scholarship recipient in New York where he took classes taught by designer Norman Bel Geddes, an early leader of the streamlining design movement. After making some money he travelled to Paris and north Africa, he was then hired by Macy's to redesign poorly selling merchandise in New York City, but quit his job almost as he started and in the early nineteen thirties he opened his own design studio. Recently the Deere & Company published an article about the work of Henry Dreyfus with them, entitled 'The Future According to Henry Dreyfuss' 2020 9John Deere Journal 2020), in it they state that "Dreyfuss learned about people, their tendencies, their fears, their reservations, their ambitions, and their unbridled enthusiasm. He used those learnings to make the world more beautiful, and functional, through the products people interacted with every day". Henry Dreyfuss worked with Deere & Company for 36 years, in 1972 at his memorial service, William Hewitt stated that about Dreyfuss that "Henry did more than improve the design of our machines, I have in mind a great many different ways in which he added significantly to the quality of our corporate performance. His contribution was so broad and deep that I can only refer to it… Henry re-designed our trademark, our graphics, and our corporate letterheads; he revamped our packaging of parts, helped improve our advertising

and our corporate films, and often assisted in the selection of oil paintings, tapestries, and sculpture for our Administrative Center."

His Title: The hidden persuader.

A phrase to remember: "People will more readily accept something new, we feel, if they recognize in it something out of the past,…most of us have a nostalgia for old things. Our senses quickly recognize and receive pleasure when a long-forgotten detail is brought back."

Three qualities: Overarching, Detailed, Nostalgic

When talking about the history of design at IBM, many tend to focus on **Elliot Noyes** who was hired in 1956 as a design consultant by the then IBM CEO and Chairman of the Board T. J. Watson Jr. who popularized the statement "Good design is Good Business". Noyes was a well-respected architect with a history of design curation in the New York Museum of Modern Art, he worked only 50% of the time with IBM, the other 50% he was consulting with Mobil Oil, Westinghouse and Cummins Engine Company, etc. He built the basis of the 'IBM design Program' that is still running today, he did that by placing under the same program the products, buildings, corporate identity and marketing materials as an intentionally created program, deeply inspired by art & design. He brought into this endeavour many artists, designers and architects, among them Charles and Ray Eames, Eero Saarinen, Paul Rand. Perhaps Noyes's was influenced by his former teacher Peter Behrens (1868–1940), whose work with the German industrial consortium Allgemeine Elektrizitäts Gesellschaft (AEG) in the early twentieth century at the epicentre of modernist design. Noyes identified himself as a curator of corporate character stating "It does seem to be a part of the role of the designer to help identify this character, and then express it in terms of the most meaningful goals and the highest ideas of the company and in the broadest context of our society and economy" (IBM 100, 2012).

This design program started in 1955 and was implemented throughout 1956, it existed for many years in only one document, a presidential letter which in IBM never changes, irrespective of who signed it, for many years the content never changed. There was also a corporate organization manual with 11 rights that are retained on the corporate staff and are not delegated to any division or operating

units, things like finance, personnel relations, and design was one of them. In an interview by Peter Lawrence with Gordon Bruce (Lawrence, P., 2016), one of Noyes' collaborators, Gordon described Noyes as someone who would listen closely to the CEO to get to the essence of the company, then build a strategy from the inside in, with internal staff, and work toward becoming dispensable. Noyes pioneered in so many ways, like establishing internal design reviews, bringing all products into a big white room, four to six times a year, with internal and external design directors, sometimes the CEO would stop by.

Throughout the years and as IBM grew, Eliot Noyes did not attempt to replicate what was happening with IBM or with other contemporary American firms that combined architectural and design practices (Skidmore, Owings & Merrill SOM, Caudill Rowlett Scott CRS, Walter Dorwin Teague and Associates), Eliot Noyes and Associates remained small but did not lose influence, he sought to extend the designer's "sphere of influence" over as many relevant aspects of IBM as possible.

His Title: The design curator.

A phrase to remember: "And this will happen only when good design—the awareness of it and the desire for it—begins to come out through their own skins. That is why this is not an outside movement. We are trying to start one within the company, using a variety of stimuli."

Three qualities: Artistic, Collaborative, Empowering

What brings together these three proto-designers, what seems to be the underlying findings that justify their success in corporate America? A number of things:

- A clear connection to a CEO that was driving the design agenda, as exemplified by correspondence between Eliot Noyes and the CEO of IBM (Harwood, J., 2011, p.34);
- A wide scope of action for design, ranging from products, to working environments, to communications;
- A programmatic approach to design, with implicit and explicit guidelines on how to achieve consistency and efficiency;

- A flexible, hybrid system of influence and direction between external and internal teams;