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On the Cultivation of Designers' Emotional Connoisseurship (Part 1): A Theoretical Positioning

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Abstract
This two-part article explores the concept of emotional connoisseurship — the art of appreciating lived emotional experiences in emotion-driven design (EDD). In Part 1, we aim to establish and position the concept within the current EDD theoretical landscape. We first review the concept of connoisseurship, its origins, development, and relevance to professional practices. Second, building upon the existing design literature, we scrutinize the relationships between design connoisseurship and design expertise. We then conceptualize emotional connoisseurship as an essential skill that designers aspiring to practice EDD must actively cultivate, along with learning EDD theories, methods, and tools. After that, we reflect on how previous EDD research outcomes (i.e., emotional granularity design tools) can support the development of a designer's emotional connoisseurship, especially in a schema-oriented or top-down manner, and argue the need for a sensibility-oriented or bottom-up approach. Part 1 sets the stage for Part 2. Part 2 will detail our pedagogical initiative supporting the self-cultivation of emotional connoisseurship among novice designers through a sensibility-oriented approach.

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Introduction

Over the past twenty-five years, experience design—or experience-driven design—has become a major theme in the field of design. Recognizing the significant role of emotion in human experience, many initiatives have explored how the knowledge of emotions developed in the social sciences can be integrated into experience design research, practice, and education. One of the most impactful initiatives was the Design and Emotion movement, which began in 1999,[1] and culminated in an experience design approach known as emotion-driven design (EDD), also referred to as emotional design or design for emotion. This approach is aimed at "designing products and services with the deliberate intention to evoke predefined target emotions."[2] Reflecting on the achievements of the first decade of the movement, some of its initiators stated in 2009: "If our students wonder today how to 'design for emotion,' we have a rich repertory of tools, methods, and theories on offer."[3]

Indeed, these EDD tools, methods, and theories have provided designers with useful knowledge and brought structure to the inherently uncertain and complex realm of EDD practices. Despite their significant value, merely possessing these resources does not guarantee that a designer is sufficiently prepared to successfully practice EDD.[4] Novice designers often treat these resources as rigid formulas for EDD. They diligently follow the design process, use the methods and tools to collect and analyze user data, and eloquently present their research results. But—to their own frustration—they fail to generate successful design concepts. This phenomenon may be partially attributed to the paradigm or approach in which many design tools, methods, and theories, including some for EDD, have been developed.

With the intention of improving design, design researchers have often followed the *predictability approach*, which aims to lower uncertainty, prescribe action, and decrease the designer's influence in the design process.[5] The predictability approach aligns well with positivism or neo-positivism, and underscores a scientific take on design that seeks ontological and procedural objectivity. Despite longstanding criticisms of positivism, its former dominance in scientific research continues to exert implicit influence on the development of design tools, methods, and theories, including those for EDD, even today.[6] For example, the methodologies that underlie appraisal theories of emotion are largely rooted in neo-positivism,[7] and have significantly influenced the initial development of EDD tools, methods, and theories.[8] On one hand, such scientific foundations have undoubtedly facilitated the progression of EDD resources, making them more scientifically robust, accessible, and systematically applicable. On the other, reliance on this has also constrained incorporating subjective perceptiveness of designers in EDD practice into the formal research agenda.

"Design research aiming at improving designing can take very different approaches."[9] Stepping beyond the confines of the predictability approach reveals a crucial yet underexplored factor that significantly influences the success of EDD. We conceptualize this factor as a designer's *emotional connoisseurship*. This manifests as a set of abilities that designers can develop over an extended period of dedicated self-cultivation. To explore it requires us to take a different approach. In our current endeavor, we employ what

1 We recognize the first International Conference on Design & Emotion and the establishment of the International Design & Emotion Society in 1999 as the beginning of this movement. See C. J. Overbeeke and Paul Hekkert, eds., *Proceedings of the First International Conference on Design & Emotion* (Delft: Delft University of Technology, 1999). https://doi.org/10.5281/zenodo.2631379.

2 Pieter M. A. Desmet et al., "Emotion-Driven Product Design," in *Emotion Measurement*, ed. Herbert L. Meiselman (Amsterdam: Woodhead Publishing, 2016), 405, https://doi.org/10.1016/B978-0-12-821124-3.00020-X.

3 Pieter M. A. Desmet and Paul Hekkert, "Special Issue Editorial: Design & Emotion," *International Journal of Design* 3, no. 2 (2009): 5, https://www.ijdesign.org/index.php/IJDesign/article/view/626/255.

4 See a similar observation regarding experience design in Marc Hassenzahl, "Experiences before Things: A Primer for the (yet) Unconvinced," in *CHI EA '13: Extended Abstracts on Human Factors in Computing Systems* (New York: ACM, 2013), 2064, https://doi.org/10.1145/2468356.2468724.

5 Erik Stolterman, "The Challenge of Improving Designing," *International Journal of Design* 15, no. 1 (2021): 65–68, https://www.ijdesign.org/index.php/IJDesign/article/view/3606.

6 The subtle yet significant impact of positivist institutions on the development of design research and methods has been recognized and criticized for decades. For example, Donald A. Schön and John Christopher Jones were among the early voices in the 1980s, offering critical reflections on this influence. Despite these criticisms, the principles of positivism continue to exert a strong presence in contemporary design research. See Donald A. Schön, *Reflective Practitioner: How Professionals Think in Action* (New York: Basic Books, 1983), 31–37; John Christopher Jones, "... in the Dimension of Time: Thoughts about the Context of Designing," *Design Studies* 1, no. 3 (1980): 173, https://doi.org/10.1016/0142-694X(80)90025-3.

7 Note that it is important to recognize that while there is a connection in terms of methodologies and the valuation of empirical research, appraisal theories also extend beyond pure neo-positivist boundaries by considering the subjective and interpretive aspects of emotional experience.

Erik Stolterman calls the preparation approach, which aims "to increase the influence of the designer *in advance* of designing."[10] In other words, in this article, we examine EDD from the perspective of individual differences among designers, their connoisseurship, or taste in human emotion.

As we will elaborate in the following sections, while some may associate the word connoisseurship with pretentiousness and elitism, considering it only relevant to arts, we use the term to refer to a vital factor of expertise relevant to all professions. It involves the ability to see richer and more nuanced qualities in crucial objects of appreciation related to professional practice. It also requires adeptly assessing the value of these qualities in context and imagining diverse new potentials that may be realized for the better. In this sense, a designer possessing advanced emotional connoisseurship means that the designer is capable of working with the complexity, richness, and subtlety of emotions, particularly in real-life settings. An EDD practitioner prepares![11]

In addition to supporting EDD practice, researchers in the field of experience design may discover that cultivating emotional connoisseurship is not only beneficial, but possibly essential. Experience design is a continuously developing field. It has recently entered a new phase, focusing considerable research efforts on exploring vital aspects that were once considered open-ended, fuzzy, or ineffable. This includes felt inner states mediated by design.[12] To explore these aspects requires the researcher to liberate themselves from blindly pursuing ontological and procedural objectivity, and further embrace (inter-)subjective ways of knowing. Accordingly, there has been a rise of introspective[13] or first-person[14] research methods in the field. This trend is also seen in EDD related research, considering it a sub-field of experience design research.

Although the development of introspective methods is still under the name of *research method*, these alternative methods explicitly emphasize the connoisseurship, taste, or a researcher's perceptiveness in human experience, including emotional and somatic aspects.[15] This is because methods of this kind cannot be developed, taught, and applied merely as a set of prescribed steps independent of the designer.[16] Successfully using introspective methods in experience design research demands that researchers first undergo training of introspection techniques, and cultivate refined connoisseurship in felt or lived experiences. This proficiency enables them to utilize the *self* (i.e., the mind-body or holistic self) as a primary instrument for observing, appreciating, understanding, and envisioning diverse human experiences from within. We therefore believe that our exploration of emotional connoisseurship, and its relationship with EDD practice and research, is beneficial for experience design practitioners and researchers.

This is a two-part article. Part 1 establishes the concept of designers' emotional connoisseurship, positioning it in the current landscape of EDD research and practice. In the following sections, we first introduce the concept of connoisseurship, its origins, development, and relevance to professions. Second, we explore the relationships between design connoisseurship and design expertise as they are depicted in existing design literature. Building on this foundation, we then conceptualize emotional connoisseurship and

8 For example, see Erdem Demir, Pieter M. A. Desmet, and Paul Hekkert, "Appraisal Patterns of Emotions in Human-Product Interaction," *International Journal of Design* 3, no. 2 (2009): 41–51, http://www.ijdesign.org/index.php/IJDesign/article/view/587/259.

9 Stolterman, "Challenge of Improving Designing," 70.

10 Ibid., 72, italics original.

11 Here we adapt the title of the masterpiece of Constantin Stanislavsky, *An Actor Prepares*, trans. Elizabeth Reynolds Hapgood (New York: Routledge, 1936).

12 For example, Mirjana Prpa et al., "Articulating Experience: Reflections from Experts Applying Micro-Phenomenology to Design Research in HCI," in *CHI '20: Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (New York: ACM, 2020), 1–14, https://doi.org/10.1145/3313831.3376664; Lian Loke and Thecla Schiphorst, "The Somatic Turn in Human-Computer Interaction," *Interactions* 25, no. 5 (2018): 54–58, https://doi.org/10.1145/3236675; Madeline Balaam et al., "Emotion Work in Experience-Centered Design," in *CHI '19: Proceedings of 2019 CHI Conference on Human Factors in Computing Systems* (New York: ACM, 2019), paper no. 602, https://doi.org/10.1145/3290605.3300832; Eva Lenz, Marc Hassenzahl, and Sarah Diefenbach, "Aesthetic Interaction as Fit between Interaction Attributes and Experiential Qualities," *New Ideas in Psychology* 47 (December 2017): 80–90, https://doi.org/10.1016/j.newideapsych.2017.03.010; Haian Xue, Pieter M. A. Desmet, and Steven F. Fokkinga, "Mood Granularity for Design: Introducing a Holistic Typology of 20 Mood States," *International Journal of Design* 14, no. 1 (2020): 1–18, https://www.ijdesign.org/index.php/IJDesign/article/view/3578.

13 Haian Xue and Pieter M. A. Desmet, "Researcher Introspection for Experience-Driven Design Research," *Design Studies* 63 (July 2019): 37–64, https://doi.org/10.1016/j.destud.2019.03.001.

14 Kristina Höök et al., "Embracing First-Person Perspectives in Soma-Based Design," *Informatics* 5, no. 1 (2018): article no. 8, https://doi.org/10.3390/informatics5010008; Andrés Lucero et al., "A Sample of One: First-Person Research Methods in HCI," in *DIS '19 Companion: Companion Publication of the 2019 on Designing Interactive Systems Conference* (New York: ACM, 2019), 385–88, https://doi.org/10.1145/3301019.3319996.

integrate it into the scope of design connoisseurship. This involves recognizing it as a necessary skill that designers who aspire to successfully practice EDD should cultivate. We then review previous design research (i.e., emotional granularity for design) that can support the development of designers' emotional connoisseurship in a schema-oriented manner. Following this, we argue the need for a sensibility-oriented approach to its cultivation. Part 2 of this article will present one of our recent pedagogical initiatives. The aim is to provide practical help to novice designers in developing emotional connoisseurship through a sensibility-oriented approach.

Connoisseurship: The Art of Appreciation

The meaning and importance of designers' emotional connoisseurship to EDD research and practice is best grasped through a brief examination of the concept of connoisseurship. Etymologically, *connoisseurship* is traced to the Latin word *cognoscere* (to know).[17] In the field of art history, since the 17th century, the French word *connoisseur* (or *connaisseur*, one who knows) has been used to denote individuals who have cultivated a good eye to identify diverse styles or periods of artworks, to make judgments of their quality, and to distinguish the authentic pieces from the forgeries.[18] Additionally, connoisseurship has a long and remarkable history in winemaking and the culinary arts, signifying the expert ability to subjectively yet professionally discern the subtle qualities of fine foods and drinks.[19]

Positioned in the art-science spectrum of professional practice, connoisseurship obviously leans more toward art. Accordingly, during the 20th century, the culture and practice of connoisseurship declined, as most disciplines fervently sought to modernize and adopt scientific principles. In this process, subjectivity (as required by connoisseurship) faced a seemingly unreconcilable conflict with objectivity (as required by scientization). In this context, subjectivity was often considered unreliable and untrustworthy, leading to its marginalization, if not outright rejection.[20] For example, such excitement about increased objectivity, control, and predictability in the winemaking process was vividly expressed by A. Dinsmoor Webb in the title of a 1984 article: "The Science of Making Wine: An ancient practical art is rapidly becoming a science as principles from chemistry, biochemistry, microbiology, and engineering are incorporated into the discipline of enology."[21] Along with this shift, modern enologists have been systematically trained in chemistry and biology to develop optimized and standardized processes and chemical formulas.

However, despite this broader trend during most of the 20th century, the importance of connoisseurship cultivation to professional practice cannot be overlooked. To illustrate this point, Elliot Eisner also uses winemaking as an example. The definitive importance of wine connoisseurship lies in the fact that "even a recipe or a formula has its ultimate test in the qualities experienced when the wine is tasted. In the end, a qualitative experience is the 'measure' of wine quality, and not the formula."[22] He further explains that the cultivation of advanced wine connoisseurship enables a winemaker to 1) perceive and differentiate subtle visual, olfactory, and gustatory

15 Kristina Höök, *Designing with the Body: Somaesthetic Interaction Design* (Cambridge, MA: MIT Press, 2018), 155; Xue and Desmet, "Researcher Introspection," 53.

16 Although we believe no method can be truly independent of its user, introspective methods made this point cannot be ignored anymore.
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17 Margarete Sandelowski, "A Matter of Taste: Evaluating the Quality of Qualitative Research," *Nursing Inquiry* 22, no. 2 (2015): 90, https://doi.org/10.1111/nin.12080.

18 Michael Clarke, *The Concise Oxford Dictionary of Art Terms*, 2nd ed. (New York: Oxford University Press, 2010), 65; David A. Freedberg, "Why Connoisseurship Matters," in *Munuscula Amicorum: Contributions on Rubens and His Colleagues in Honour of Hans Vlieghe*, ed. Katlijne Van der Stighelen (Turnhout, Belgium: Brepols, 2006), 31, https://doi.org/10.7916/D82B9746; Joris Corin Heyder, "Doing Connoisseurship. Yesterday, Today, Tomorrow. Introductory Remarks," *Journal of Art Historiography*, no. 24 (2021): 1–2, https://doi.org/10.48352/uobxjah.00003417.

19 Jeremy Strong, ed., *Educated Tastes: Food, Drink, and Connoisseur Culture* (Lincoln, NE: University of Nebraska Press, 2011).

20 For a detatiled review, see Steven Shapin, "A Taste of Science: Making the Subjective Objective in the California Wine World," *Social Studies of Science* 46, no. 3 (2016): 436–60, https://doi.org/10.1177/0306312716651346.

21 A. Dinsmoor Webb, "The Science of Making Wine: An Ancient Practical Art Is Rapidly Becoming a Science as Principles from Chemistry, Biochemistry, Microbiology, and Engineering Are Incorporated into the Discipline of Enology," *American Scientist* 72, no. 4 (1984): 360–67, https://www.jstor.org/stable/27852760.

22 Elliot W. Eisner, *The Enlightened Eye: Qualitative Inquiry and the Enhancement of Educational Practice* (New York: Macmillan, 1991), 65.

qualities of wines, 2) notice the complex interplay of these qualities, 3) recognize them as samples of a larger set of qualities (e.g., Chardonnay versus Sauternes and the differences in a particular type of Chardonnay over other varieties of Chardonnay), 4) envision the potential of new wines, 5) judge the virtues and vices of the qualities experienced and envisioned, and 6) identify significant factors that need to be finely tuned in the winemaking process (e.g., selecting a specific type of wood for the barrel or deciding the extent to which the barrel should be toasted) to achieve the envisioned potential.[23]

Perhaps due to its high art origins, connoisseurship may carry some negative connotations, such as pretentiousness, snobbery, and elitism, and might be mistakenly confined to activities directly associated with artistic expression. However, the scope of connoisseurship extends far beyond the arts.[24] In fact, connoisseurship manifests in all humans as we perceive objects (be they works of art, antiques, machines, plants, animals, relationships, behaviors, or emotions) "in complex, subtle ways—ways which might not be understood initially by others."[25] Hence, although the culture, practice, and study of connoisseurship may not always be explicit, it plays a significant role in *all practices* in which active engagement of human intelligence and creativity is indispensable.

Consequently, it is more appropriate to view connoisseurship as one of the crucial factors that distinguishes the expert from the novice. For instance, a chess master can identify and differentiate more nuanced patterns and values of chessboard configurations than novice players.[26] Similarly, expert radiologists extract much richer and more useful information for diagnosis from the same radiograph than novice radiologists.[27]

While it may sound counterintuitive, connoisseurship also applies to scientists and scientific research. Although scientific research generally emphasizes objectivity, scientists (i.e., humans who perform scientific acts) inevitably infuse personal elements into their scientific research processes. Thus, it is their acquired connoisseurship in a particular scientific field that enables the scientist to tacitly yet precisely appreciate the beauty or ugliness (i.e., judge the quality) of established or emerging theories, models, and equations.[28] In this respect, Michael Polanyi argues that the connoisseurship of a scientist represents the "unspecifiable art of scientific research," and that "such acts of personal judgement form an essential part of science."[29]

Connoisseurship is the *art of appreciation*.[30] This definition emphasizes that the value of connoisseurship is not limited to specific fields of practice. Instead, it indicates that every field has a scope of objects worth appreciating, known as core or relevant. Connoisseurship is "the means through which we come to know the complexities, nuances, and subtleties of aspects of the world in which we have a special interest."[31] Note that appreciation does not imply admiration or approval. As Eisner states: "One can appreciate the weaknesses of an argument, a teacher, or a poem as well as their strengths. Nothing in connoisseurship as a form of appreciation requires that our judgments be positive. What is required (or desired) is that our experience be complex, subtle, and informed."[32]

23 Ibid., 63–65.
24 David Ebitz, "Connoisseurship as Practice," *Artibus et Historiae* 9, no. 18 (1988): 208, https://doi.org/10.2307/1483344.
25 John C. Belland, "Developing Connoisseurship in Educational Technology," in *Paradigms Regained: The Uses of Illuminative, Semiotic, and Post-Modern Criticism as Modes of Inquiry in Educational Technology,* ed. Denis Hlynka and John C. Belland (Englewood Cliffs, NJ: Educational Technology Publications, 1991), 23.
26 Eyal M. Reingold et al., "Visual Span in Expert Chess Players: Evidence from Eye Movements," *Psychological Science* 12, no. 1 (2001): 54–55, https://doi.org/10.1111/1467-9280.00309; Eyal M. Reingold et al., "Perceptual Automaticity in Expert Chess Players: Parallel Encoding of Chess Relations," *Psychonomic Bulletin & Review* 8, no. 3 (2001): 507–9, https://doi.org/10.3758/BF03196185.
27 Beverly P. Wood, "Visual Expertise," *Radiology* 211, no. 1 (1999): 1–2, https://doi.org/10.1148/radiology.211.1.r99ap431.
28 Jeff Kochan, "Subjectivity and Emotion in Scientific Research," *Studies in History and Philosophy of Science Part A* 44, no. 3 (2013): 358, https://doi.org/10.1016/j.shpsa.2013.05.003.
29 Michael Polanyi, *Personal Knowledge: Towards a Post-Critical Philosophy* (Chicago: University of Chicago Press, 1958), 20.
30 Elliot W. Eisner, "The Perceptive Eye: Toward the Reformation of Educational Evaluation" (report, Stanford Evaluation Consortium, Department of Education, Stanford University, 1975), 4, https://eric.ed.gov/?id=ED128408; Elliot W. Eisner, "Educational Connoisseurship and Criticism: Their Form and Functions in Educational Evaluation," *Journal of Aesthetic Education* 10, no. 3/4 (1976): 141, https://doi.org/10.2307/3332067.
31 Eisner, *Enlightened Eye*, 63.
32 Ibid., 69.

Connoisseurship in Design Literature

Connoisseurship in design[33] shares common characteristics of connoisseurship in other fields. Developing advanced design connoisseurship empowers design professionals to appreciate all design-relevant objects, perceive their nuances and subtleties, envision new possibilities, and judge their appropriateness. Design connoisseurship, including its manifestation and value in design practice, has been explored closely in relation to design expertise. In design literature, the relationship between these two concepts is generally depicted in two ways.

Design Connoisseurship Nurtures Design Expertise

Some design researchers have conceptualized design connoisseurship and design expertise as two distinct faculties.[34] Design expertise primarily concerns the designer and their professional ability to create. Design connoisseurship, however, concerns the observer of design outcomes (e.g., design historians, critics, and curators) and their professional ability to appreciate and judge design work.[35]

Indeed, a design critic does not need to be technically skillful in design practice or capable of professionally actualizing design concepts. However, a design practitioner with strong technical skills but limited connoisseurship can hardly embody excellence in design expertise. This is because design expertise is not only about technical proficiency—it also involves perception, differentiation, envisioning, and judgment of different design potentials. For design practitioners, cultivating connoisseurship in all design-relevant objects is essential for attaining design expertise. It is a necessary means to that end. From this perspective, design connoisseurship is a cultivated faculty that *nurtures* design expertise.

Design Connoisseurship as Part of Design Expertise

While connoisseurship may not be the term used in their work, many scholars have integrated its meaning into their notions of design expertise via similar concepts. This includes the designer's 1) ability to recognize and differentiate design-relevant objects, 2) experience and awareness of variety, and 3) judgment and sensibility.

Based on perceptual learning theory,[36] Masaki Suwa proposes an expertise-as-differentiation view, suggesting that "experts are able to differentiate and perceive some variables in their body and the surrounding world that would be meaningless to novices."[37] In this view, an enhanced ability to differentiate promotes perceptual recognition; in turn, this supports conceptual generation in design practice.[38] Consequently, designers who can recognize the nuances in objects relevant to their practice are demonstrating a core aspect of design connoisseurship.

A second concept that partially represents design connoisseurship is the designer's experience and awareness of variety. Nathan Crilly notes that a designer's accrued experiences with a wider variety of concepts prevent fixation while designing. "Developing an awareness of the variety of possible solutions to any given design problem had the effect of both making those same solutions accessible and reminding designers of the opportunities for concept variety."[39]

33 Note we use "design" here to primarily refer to industrial and experience design, due to our disciplinary focus and background.

34 For example, see Maria Georgaki, "Developing Expertise and Connoisseurship through Handling Objects of Good Design: Example of the ILEA/Camberwell Collection," *Journal of Research Practice* 11, no. 2 (2015): online, http://jrp.icaap.org/index.php/jrp/article/view/484/422; Nithikul Nimkulrat, Kristina Niedderer, and Mark Evans, "On Understanding Expertise, Connoisseurship, and Experiential Knowledge in Professional Practice," *Journal of Research Practice* 11, no. 2 (2015): 2–3, https://jrp.icaap.org/index.php/jrp/article/view/530.

35 Nimkulrat et al., "On Understanding Expertise," 3.

36 James J. Gibson and Eleanor J. Gibson, "Perceptual Learning: Differentiation or Enrichment?," *Psychological Review* 62, no. 1 (1955): 32–41, https://doi.org/10.1037/h0048826.

37 Masaki Suwa, "Differentiation: Designers Are More than Being Adept at Designing," in *Studying Designers'05*, ed. John S. Gero and Nathalie Bonnardel (Sydney: Key Centre of Design Computing and Cognition, University of Sydney, 2005), 33.

38 Ibid., 35.

39 Nathan Crilly, "Fixation and Creativity in Concept Development: The Attitudes and Practices of Expert Designers," *Design Studies* 38 (May 2015): 73–74, https://doi.org/10.1016/j.destud.2015.01.002.

Finally, the designer's judgment has a central role in the design process, which "not only positions the designer as the one who shapes the design through the way they frame the task, but also implies a necessary awareness that choices have been made and that they have consequences."[40] Therefore, designers must develop their own design sensibility beyond mastering technical matters and norms of practice. Typical ways for novice designers to develop design judgment and sensibility include working on design projects with more experienced designers, engaging in studio critiques,[41] and studying design history.[42]

Overall, the literature on design connoisseurship and related constructs effectively highlights the importance of cultivating design connoisseurship as a crucial element in achieving advanced design expertise. In other words, on their journey to becoming highly capable designers, designers must develop a nuanced understanding and a perceptive appreciation of a variety of design-relevant objects. In the sections that follow, based on this synthesis of the current state of the art, we redirect our focus back to the EDD expertise, define emotional connoisseurship from a perspective of design, and argue the value of cultivating emotional connoisseurship in advancing designers' EDD expertise and beyond.

Designers' Emotional Connoisseurship

Emotions as Design-Relevant Objects of Appreciation

Design connoisseurship is multifaceted and dynamic. It is multifaceted because its objects of appreciation are diverse. Traditionally, design-relevant objects of appreciation include, for example, problem situations, symbols, sketching, prototyping, structure, style, color, material, and finish. Advanced design connoisseurship may also include the ability to appreciate existing designs and new design concepts in their larger contexts, and to discern their societal values, ideologies, and zeitgeists embodied therein.

The scope of design connoisseurship is dynamic because it is not fixed on what objects of appreciation should be considered design relevant. First, this may be influenced by the new developments in design. For example, the development of interaction design has encouraged designers to become more able to discern, envision, and judge intangible interactive qualities. Consequently, for those who design interactions, the scope of design connoisseurship has extended to include objects of appreciation such as the forms and attributes of interaction or movement (e.g., being gentle or powerful, fluent or stepwise, approximate or precise).[43] Furthermore, the objects of appreciation considered design-relevant can also depend on the designer's specialty or the domain of a particular design project (e.g., energy, healthcare, mobility, experience and well-being). Additionally, the designer's approach and perspective (e.g., experience-driven or technology-driven) also influences what they perceive as worthy of appreciation in the design process.

Considering the multifaceted and dynamic scope of design connoisseurship and the fact that *experience* and *emotion* have been important in design for over two decades, we propose to explicitly recognize emotions

40 Janet McDonnell, "Scaffolding Practices: A Study of Design Practitioner Engagement in Design Education," *Design Studies* 45 (July 2016): 9, https://doi.org/10.1016/j.destud.2015.12.006.

41 For example, see G. Goldschmidt, H. Hochman, and I. Dafni, "The Design Studio 'Crit': Teacher-Student Communication," *AI EDAM* 24, no. 3 (2010): 300, https://doi.org/10.1017/S089006041000020X; Belkis Uluoğlu, "Design Knowledge Communicated in Studio Critiques," *Design Studies* 21 (January 2000): 54–58, https://doi.org/10.1016/S0142-694X(99)00002-2; McDonnell, "Scaffolding Practices," 21–24.

42 Adrian Forty, "A Reply to Victor Margolin," *Journal of Design History* 6, no. 2 (1993): 131, https://doi.org/10.1093/jdh/6.2.131.

43 For example, see the concepts/vocabularies summarized by Sarah Diefenbach, Eva Lenz, and Marc Hassenzahl, "An Interaction Vocabulary. Describing the How of Interaction," in *CHI EA '13: Extended Abstracts on Human Factors in Computing Systems* (New York: ACM, 2013), 609, https://doi.org/10.1145/2468356.2468463; Youn-kyung Lim, Sang-Su Lee, and Da-jung Kim, "Interactivity Attributes for Expression-Oriented Interaction Design," *International Journal of Design* 5, no. 3 (2011): 118, https://www.ijdesign.org/index.php/IJDesign/article/view/718.

as design-relevant objects of appreciation. One might argue that appreciating emotions has always been a crucial part of human-centered design, because innovating with emotions is fundamentally intertwined with such design practice. However, not every designer can intuitively understand the importance of appreciating emotions in their work. Nor can every designer effectually cultivate this ability. Therefore, the remainder of this section is dedicated to introducing the concept of "designers' emotional connoisseurship." In this framework, emotions are seen as design-relevant objects of appreciation, highlighting their value in fostering creativity among designers in general, as well as to EDD practice and research in particular. Without this recognition, conducting systematic research on emotional connoisseurship in the design field—and developing targeted training programs to help designers cultivate their emotional connoisseurship—would remain extremely challenging, if not impossible.

Designer's Emotional Connoisseurship and Its Value to EDD

EDD is an experience design approach that gives user emotion an explicit role in the design process. It typically begins by envisioning *target user emotion(s)*, then continues by developing a *thing* (e.g., a product, service, or system) that eventually evokes the target emotional experience in the given interaction context.[44] Throughout the EDD process, the resulting emotions are treated as the focal object envisioned, appreciated, and evaluated. In contrast, the product, service, or system is merely an enabler or mediator of the resulting emotions.[45]

EDD is easier said than done. Emotions are highly diverse and subtle. Designers do not have an innate ability to appreciate and communicate this diversity and subtlety. As Gerald Clore and Andrew Ortony state, "Emotions are not self-identifying … People can generally classify their feelings as positive or negative quite readily and perhaps indicate that they feel excited, but they often have difficulty specifying further exactly what they feel."[46] While teaching EDD, we observed that many of our students exhibit a lack of emotional nuance.[47] Many tend to reduce the richness and subtlety of emotional experiences, resorting to general concepts, such as good, pleasant, or positive, as their envisioned target emotions to guide the design process. However, designing for generalized pleasure overlooks the differentiated nature of human emotion, and a diverse palette of distinct positive emotions that can be evoked by design, such as hope, pride, fascination, relief, or love.[48]

Additionally, mere positivity does not inherently qualify an emotion as a worthy target. In some cases, negative emotions may be more beneficial, meaningful, or desirable.[49] Novice designers can conveniently grasp these considerations by reading research papers or attending lectures. However, truly developing the ability to appreciate and envision emotional experiences in the design process is a matter of long-term self-cultivation rather than merely acquiring knowledge.

To explore the fuzzy, personal aspects of EDD and to provide better support to novice designers in their cultivation, we introduce the concept of designer's emotional connoisseurship. If connoisseurship is the art of appreciation, emotional connoisseurship—as we define it—is the art of

44 Desmet et al., "Emotion-Driven Product Design," 405.

45 Marc Hassenzahl et al., "Designing Moments of Meaning and Pleasure: Experience Design and Happiness," *International Journal of Design* 7, no. 3 (2013): 29–30, https://ijdesign.org/index.php/IJDesign/article/view/1480; Marc Hassenzahl et al., "Experience-Oriented and Product-Oriented Evaluation: Psychological Need Fulfillment, Positive Affect, and Product Perception," *International Journal of Human-Computer Interaction* 31, no. 8 (2015): 541, https://doi.org/10.1080/10447318.2015.1064664.

46 Gerald L. Clore and Andrew Ortony, "Psychological Construction in the OCC Model of Emotion," *Emotion Review* 5, no. 4 (2013): 341, https://doi.org/10.1177/1754073913489751.

47 This claim does not have any pathological meaning (e.g., alexithymia) but expresses that a large proportion of low emotional connoisseurship population exist within the spectrum of normality.

48 JungKyoon Yoon, Anna E. Pohlmeyer, and Pieter M. A. Desmet, "When 'Feeling Good' Is Not Good Enough: Seven Key Opportunities for Emotional Granularity in Product Development," *International Journal of Design* 10, no. 3 (2016): 1–15, https://ijdesign.org/index.php/IJDesign/article/view/2338; JungKyoon Yoon, Anna E. Pohlmeyer, and Pieter M. A. Desmet, "EmotionPrism: A Design Tool That Communicates 25 Pleasurable Human-Product Interactions," *Journal of Design Research* 15, no. 3-4 (2017): 174–96, https://doi.org/10.1504/JDR.2017.089912.

49 For example, Elizabeth A. Kensinger, "Negative Emotion Enhances Memory Accuracy: Behavioral and Neuroimaging Evidence," *Current Directions in Psychological Science* 16, no. 4 (2007): 213–18, https://doi.org/10.1111/j.1467-8721.2007.00506.x; Steven F. Fokkinga and Pieter M. A. Desmet, "Darker Shades of Joy: The Role of Negative Emotion in Rich Product Experiences," *Design Issues* 28, no. 4 (2012): 42–56, https://doi.org/10.1162/DESI_a_00174; Steven F. Fokkinga and Pieter M. A. Desmet, "Ten Ways to Design for Disgust, Sadness, and Other Enjoyments: A Design Approach to Enrich Product Experiences with Negative Emotions," *International Journal of Design* 7, no. 1 (2013): 19–36, https://ijdesign.org/index.php/IJDesign/article/view/1180.

appreciating lived emotional experiences. This definition indicates a distinctive feature of emotional connoisseurship: the object of appreciation is neither tangible nor external (e.g., products, machines, wines, or artworks). Rather, it encompasses emotional experiences that are felt, registered, comprehended, and memorized (or documented) by the designer. These experiences may be intuitively recognized, associated, and retrieved for relevant design projects. These lived emotional episodes are infinitely diverse, like a pensive or dreamy interlude during a train journey, a serene moment sitting in a sauna, a burst of exhilaration while riding a motorcycle, an echo of nostalgia brought on by a bicycle ride after decades without doing it, or the bittersweet longing felt after reading the warm words of a late loved one.

More specifically, the designer's emotional connoisseurship can be seen as a set of cultivated personal qualities or abilities.[50] A designer possessing a high degree of emotional connoisseurship may be:

- *Emotionally perceptive* — able to keenly see, notice, and distinguish nuanced qualities in lived emotional experiences. This includes being aware of feelings, recognizing bodily states, and instinctively yet precisely understanding what counts from complex, naturalistic data about users' emotions.
- *Emotionally creative* — able to envision a larger number of emotional potentials that are novel (unique or unconventional), valuable (appropriate, useful, meaningful, or enjoyable), and authentic for the users in diverse interaction contexts.
- *Emotionally tasteful* — able to evaluate imagined emotional potentials and make visionary emotion-focused design decisions.
- *Emotionally articulate* — able to vividly render (through language or other means) and communicate the salience of subjectively perceived emotional qualities and envisioned emotional potentials to others (e.g., the design team, users, clients, and other stakeholders).
- *Emotionally ethical* — able to foresee immediate and long-term well-being impacts that the target emotion(s) might have on the individual users and society and keep the ethical issues under consideration during the entire EDD process.

The Value of Cultivating Emotional Connoisseurship beyond EDD

Dedicated training of emotional connoisseurship may well contribute to the development of designers' general creativity beyond the practice of EDD. This idea is supported by the fact that our construct of emotional connoisseurship overlaps with *emotional acuity*, a concept coined by David Gelernter to depict what "lies at the root of creativity."[51]

> "[S]ome people have relatively more acute vision or hearing or sense of smell than others. Likewise for many other properties — coordination, sense of direction, whatever. We might speak of 'emotional acuity' in the same way. Possessing a high degree of emotional acuity doesn't mean that you take an 'emotional' (in the sense of histrionic or overwrought) view of the world. Rather (1) that you are able to register subtle or nuanced emotions — to experience subtle emotional reactions — where less acute people would have

50 The identification of these personal qualities or abilities is based on both reading relevant literature and reflecting on our own experiences as long-term EDD researchers, educators, and practitioners. It is difficult to perfectly confine which ones are derived from literature and which ones are from our own reflections. Nevertheless, we acknowledge that Averill's works on emotional creativity made a significant contribution to our identification of these personal qualities or abilities. For example, James R. Averill, "A Tale of Two Snarks: Emotional Intelligence and Emotional Creativity Compared," *Psychological Inquiry* 15, no. 3 (2004): 228–33, available at https://people.umass.edu/jra/studiesofemotion/articles/creativity/TwoSnarks.pdf; James R. Averill, "Individual Differences in Emotional Creativity: Structure and Correlates," *Journal of Personality* 67, no. 2 (1999): 331–71, https://doi.org/10.1111/1467-6494.00058; James R. Averill, "Emotional Creativity: Toward 'Spiritualizing the Passions,'" in *Handbook of Positive Psychology*, ed. C. R. Snyder and Shane J. Lopez (New York: Oxford University Press, 2002), 159–71.

51 David Gelernter, *The Muse in the Machine: Computerizing the Poetry of Human Thought* (New York: Macmillan, 1994), 90.

> no emotional reaction at all; and (2) that you are able to distinguish many elements in a subtle emotional palette, where a less acute person would distinguish the emotional equivalent of red, green, blue."[52]

According to the Emotional Resonance Model of creativity, the ability to appreciate idiosyncratic emotions—i.e., lived emotional experiences that defy easy categorization into predefined emotions like anger and pride—contributes to creativity. This is because it enables individuals to access and associate cognitively with remote concepts in one's memory.[53] Therefore, Isaac Getz and Todd Lubart identify individual differences in making creative associations thus:

> "Specifically, individuals with a significant personal experience on which they have dwelt and for which they have acquired complex and idiosyncratic emotions, and who, furthermore, are highly attentive to their emotional processes, will be the most effective in generating emotion-based associations for creativity."[54]

In summary, the journey of cultivating emotional connoisseurship is likely to transcend the scope of EDD and touch the very essence of creativity itself. Through frequent immersion in lived emotional experiences and the continuous sharpening of their ability to discern and appreciate the richness and subtlety of these experiences, designers can unlock a deeper source of inspiration and innovation. This is highlighted by the concept of emotional acuity and the Emotional Resonance Model. We thus believe that the potential benefits of developing emotional connoisseurship reach beyond the immediate practice and research of EDD.

Cultivating Designer's Emotional Connoisseurship

Schema-Oriented Cultivation Facilitated by Emotional Granularity Design Tools

How can designers cultivate their emotional connoisseurship? Without referring to emotional connoisseurship, a thread of design research has contributed an answer by introducing *emotional granularity* to EDD. Initially developed in psychology, emotional granularity refers to the ability to make fine-grained, nuanced differentiations between similar yet distinct emotional states, and to specifically interpret and articulate them.[55]

According to Barrett's Conceptual Act Model of Emotion,[56] differences in emotional granularity stem from variances in individuals' conceptual understanding of emotions when categorizing core affect.[57] Moreover, the acquisition of highly granular affective concepts is dependent on language.[58] Building on this premise, design studies on emotional granularity have featured systematic explorations of taxonomies of emotions and moods that could arise from human-design interaction, or that designers should develop conceptual knowledge about. The generation of design related emotion and mood typologies has typically involved a lexical approach—collecting and categorizing a large quantity of affective natural language words.[59]

To date, the research thread of emotional granularity for design has resulted in typologies of 25 positive emotions,[60] 36 negative emotions,[61] 20

52 Ibid., 89–90.

53 Isaac Getz and Todd I. Lubart, "The Emotional Resonance Model of Creativity: Theoretical and Practical Extensions," in *Affect, Creative Experience, And Psychological Adjustment,* ed. Sandra W. Russ (Philadelphia: Taylor & Francis, 1999), 41–56; Todd Lubart and Branden Thornhill-Miller, "Creativity: An Overview of the 7C's of Creative Thought," in *The Psychology of Human Thought: An Introduction*, ed. Robert J. Sternberg and Joachim Funke (Heidelberg: Heidelberg University Publishing, 2019), 282, https://doi.org/10.17885/heiup.470.c6678.

54 Getz and Lubart, "Emotional Resonance Model of Creativity," 46.

55 Lisa Feldman Barrett, "Feelings or Words? Understanding the Content in Self-Report Ratings of Experienced Emotion," *Journal of Personality and Social Psychology* 87, no. 2 (2004): 266–67, https://doi.org/10.1037/0022-3514.87.2.266; Kristen A. Lindquist and Lisa Feldman Barrett, "Emotional Complexity," in *Handbook of Emotions*, 3rd ed., ed. Michael Lewis, Jeannette M. Haviland-Jones, and Lisa F. Barrett (New York: Guilford Press, 2008), 516–19; Lisa Feldman Barrett, "Solving the Emotion Paradox: Categorization and the Experience of Emotion," *Personality and Social Psychology Review* 10, no. 1 (2006): 24–25, https://doi.org/10.1207/s15327957pspr1001_2.

56 Barrett, "Solving the Emotion Paradox," 21.

57 "Core affect is that neurophysiological state consciously accessible as the simplest raw (nonreflective) feelings evident in moods and emotions." These raw feelings appear to us as an integral blend of hedonic (pleasure-displeasure) and arousal (activation-deactivation) qualities. They are not emotions and moods per se, but the neurophysiological foundation of them. See James A. Russell, "Core Affect and the Psychological Construction of Emotion," *Psychological Review* 110, no. 1 (2003): 147–48, https://doi.org/10.1037/0033-295X.110.1.145.

58 Barrett, "Solving the Emotion Paradox," 37–39.

59 For example, Oliver P. John, Alois Angleitner, and Fritz Ostendorf, "The Lexical Approach to Personality: A Historical Review of Trait Taxonomic Research," *European Journal of Personality* 2, no. 3 (1988): 171–203, https://doi.org/10.1002/per.2410020302; Walter Renner, "Human Values: A Lexical Perspective," *Personality and Individual Differences* 34, no. 1 (2003): 127–41, https://doi.org/10.1016/S0191-8869(02)00037-5.

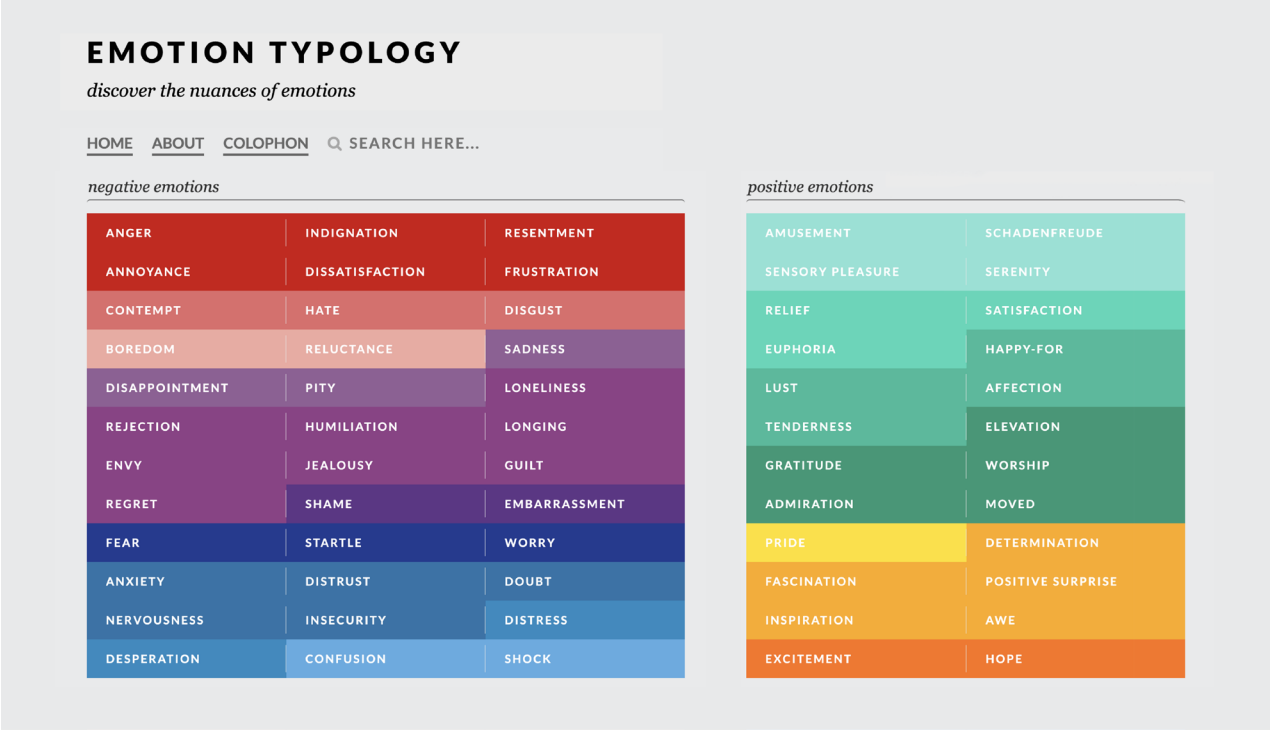

Figure 1
An example of emotional granularity design tool. The latest version of emotion typology developed for designers, by Delft Institute of Positive Design and Emotion Studio. Available at https://emotiontypology.com/.

moods,[62] and 8 group moods.[63] These typologies offer the design community with a broad overview of fine-grained emotion and mood categories, and rich vocabularies and visuals to communicate the concepts. They also describe multiple aspects of each identified emotion or mood, including felt qualities, bodily sensations, thought-action tendencies, psychological functions, and situated exemplars. To better disseminate these typologies in the design community, they have not only been reported in research papers but also transformed into design tools (see Figure 1 for an example).[64]

Designers can employ these tools to cultivate emotional connoisseurship and draw inspirations centered on emotions while designing. When working on a specific emotion-focused design project, these tools can help designers capture more diverse and precise user emotions. They also aid in better envisioning the user emotions intended for meaningful design integration. When fostering long-term emotional connoisseurship, designers should use these tools regularly, with a strong sense of curiosity and a desire to acquire deeper understandings of emotion concepts and knowledge. This practice should continue regardless of whether they have a relevant design project at hand. In this way, emotional granularity design tools can facilitate a schema-oriented or top-down development of emotional connoisseurship. Their merits lie in efficiency—enabling designers to quickly establish more refined concepts of emotions and moods beyond general positive-negative distinction. Additionally, they provide a common vocabulary and evocative visuals of emotions, with which designers can vividly communicate and discuss

60 Pieter M. A. Desmet, "Faces of Product Pleasure: 25 Positive Emotions in Human-Product Interactions," *International Journal of Design* 6, no. 2 (2012): 1–29, https://www.ijdesign.org/index.php/IJDesign/article/view/1190.

61 Steven F. Fokkinga, *Design -/+ Negative Emotions for Positive Experiences* (PhD Dissertation, Delft University of Technology, 2015), https://doi.org/10.4233/uuid:f81fbaab-b3d1-407d-98d4-6775fed2ec81.

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62 Xue et al., "Mood Granularity for Design."

63 Alev Sönmez, Pieter M. A. Desmet, and Natalia Romero Herrera, "Chill, Fiery, Slack, and Five Other Vibes: A Phenomenological Inquiry into Group Mood," *She Ji: The Journal of Design, Economics, and Innovation* 8, no. 1 (2022): 93–117, https://doi.org/10.1016/j.sheji.2021.12.001.

emotional qualities perceived by themselves and others. This approach aligns with Steven Shapin's recognition of the value of intersubjectivity engines (i.e., taxonomies and descriptors of subjectively perceivable qualities that result from the sciences of subjectivity) in developing the connoisseurship of novices.[65]

Limitations of Emotional Granularity Design Tools

Despite their merits, we have also noted the limitations of emotional granularity design tools. This realization came through critical reflection on our EDD pedagogy, where these tools have played an important role.[66]

First, these tools may lead designers to mistakenly believe that these typologies provide a complete overview of emotions and moods, including their definitions and manifestations. In reality, these typologies (like any typology) and the emotion concepts they introduce only represent prototypical forms of emotions rather than the full diversity and richness of emotions in real life. Simplifying lived emotional experiences and categorizing emotions with a limited set of everyday words benefits designers through more efficient interpretation and interpersonal communication regarding emotional experiences.[67] Nevertheless, humans are able to experience a larger, if not an infinite, number of complex or atypical emotions.[68] This is well illustrated by the research finding that people experience at least four types of boredom, one of which features positive phenomenological contents, such as "relaxation and cheerful fatigue" and "a general indifference to, and withdrawal from, the external world."[69] Similarly, Alan Fiske argues that "unlabeled and unconceptualized emotions occur (and not simply as unnamed areas on a plane defined by some unspecified species of valence and some amorphous sort of arousal)."[70] Emotional granularity design tools may inadvertently stimulate a fixation that hinders designers' continuous development of emotional connoisseurship, despite effectively introducing a variety of emotions and moods, especially in the early stages of a dedicated development of emotional connoisseurship.

Second, we have observed that our design students are easily tempted to utilize these tools as a quick fix. They use them as mere checklists to enable immediate identification of emotion concepts relevant to current design projects. Such a utilitarian attitude does not foster emotional connoisseurship. Emotional connoisseurship cannot be cultivated with a detached stance—it requires frequent savoring of lived emotional experiences. Using the term savoring metaphorically, we again illustrate this point through an analogy of the cultivation of wine connoisseurship. Emotional granularity tools function similarly to the Wine Aroma Wheel,[71] which helps novice wine tasters develop a deeper appreciation by presenting an overview of detailed concepts and descriptors for diverse wine qualities. However, wine connoisseurship does not automatically develop after accessing the Wine Aroma Wheel. Progressing requires the novice to taste wine and to offer prolonged attention to wines and their diverse qualities. Similarly, if a designer rarely savors or reflects upon lived emotional experiences, the mere availability of emotional granularity tools cannot directly foster emotional connoisseurship.

64 For example, see JungKyoon Yoon, *Escaping the Emotional Blur: Design Tools for Facilitating Positive Emotional Granularity* (PhD Dissertation, Delft University of Technology, 2018), 160–66, https://doi.org/10.4233/uuid:5f807568-492b-40eb-8618-bcdf1e1b2e7c; Pieter M. A. Desmet, Haian Xue, and Steven F. Fokkinga, *Twenty Moods: A Holistic Typology of Human Mood States* (Delft: Delft University of Technology, 2020), https://diopd.org/mood-typology-booklet/; Pieter M. A. Desmet, Haian Xue, and Steven F. Fokkinga, "The Same Person Is Never the Same: Introducing Mood-Stimulated Thought/Action Tendencies for User-Centered Design," *She Ji: The Journal of Design, Economics, and Innovation* 5, no. 3 (2019): 167–87, https://doi.org/10.1016/j.sheji.2019.07.001.

65 Steven Shapin, "The Sciences of Subjectivity," *Social Studies of Science* 42, no. 2 (2012): 178, https://doi.org/10.1177/0306312711435375.

66 Our reflection on the merits and limitations of emotional granularity design tools is based on the EDD pedagogy and EDD course for Master-level students. We have taught different versions of this course in The Netherlands, China, USA, Spain, Denmark, Italy and South Korea. Readers can find detailed information about the teaching principles, learning activities, and design examples from the students from Pieter M. A. Desmet et al., "Demystifying Emotion for Designers: A Five-Day Course Based on Seven Fundamental Principles," *Advanced Design Research* 1, no. 1 (2023): 50–62, https://doi.org/10.1016/j.ijadr.2023.06.002.

67 For example, see Alan S. Cowen and Dacher Keltner, "Self-Report Captures 27 Distinct Categories of Emotion Bridged by Continuous Gradients," *Proceedings of the National Academy of Sciences* 114, no. 38 (2017): E7900, https://doi.org/10.1073/pnas.1702247114; Clore and Ortony, "Psychological Construction," 342.

68 Russell, "Core Affect and the Psychological Construction," 166.

69 Thomas Goetz et al., "Types of Boredom: An Experience Sampling Approach," *Motivation and Emotion* 38 (2014): 403, https://doi.org/10.1007/s11031-013-9385-y.

70 Alan Page Fiske, "The Lexical Fallacy in Emotion Research: Mistaking Vernacular Words for Psychological Entities," *Psychological Review* 127, no. 1 (2020): 99, https://doi.org/10.1037/rev0000174.

71 Developed by Ann C. Nobel at UC Davis, available at http://winearomawheel.com/.

Toward a Sensibility-Oriented Cultivation of Emotional Connoisseurship

With this critical reflection, we argue that the schema-oriented approach to emotional connoisseurship must be complemented by a bottom-up approach that sharpens emotional sensibility. This enables the continuous development of emotional connoisseurship. In the current context, where we address a designer's emotional connoisseurship, a schema means a structured framework or a set of principles of emotions that designers can either quickly adopt (e.g., through reading or using a tool) or slowly develop (e.g., through reflection) to organize and interpret the emotion-related information that they perceive and envision. On the other hand, sensibility refers to a designer's acute awareness of the dynamic nuances and richness found in the lived emotional experiences, as well as the ability to notice and explore the uncharted, especially in naturalistic settings.

The importance of a sensibility-oriented approach to connoisseurship has long been recognized in both Eastern and Western traditions. In Chinese poetics, for example, to advance poetry connoisseurship, Sikong Tu (Ssu-k'ung T'u [司空图]; 837–908; an ancient Chinese poet and poetry theorist) classified, described, and illustrated twenty-four categories of Chinese poetry. In his work, nevertheless, he also pointed out the necessity of developing a more nuanced awareness of flavors of poetry through continuous savoring or sensibility-oriented cultivation.[72] American sinologist Stephen Owen explained this thought of Sikong Tu:

> "The opposition is between gross categories that have names, and fine judgments for which there are no names. Furthermore, those finer gradations are learned by experience: one who knows only the gross categories can apprehend only the gross categories; to be able to recognize the finer distinctions requires the education of a sensibility."[73]

Similarly, in the Western tradition, Polanyi also stressed the importance of a sensibility-oriented approach to the cultivation of connoisseurship in his masterpiece *Personal Knowledge*.

> "Connoisseurship, like skill, can be communicated only by example, not by precept. To become an expert wine-taster, to acquire a knowledge of innumerable different blends of tea or to be trained as a medical diagnostician, you must go through a long course of experience under the guidance of a master."[74]

We find both schema-oriented and sensibility-oriented approaches have unique, irreplaceable, and mutually supporting roles in the development of any connoisseurship, as they do in the cultivation of designers' emotional connoisseurship (see Table 1). In this sense, our proposition deeply resonates with that of Eisner:

> "Both sensibility and schema provide the means through which we make sense of a complex qualitative array. Sensibility alerts us to nuanced qualities and the schema relevant to a domain, the significance of what to seek and see. Without sensibility the subtleties of the social world go unexperienced. Without a schema no sorting into significance is possible."[75]

72 Louise Sundararajan, "Twenty-Four Poetic Moods: Poetry and Personality in Chinese Aesthetics," *Creativity Research Journal* 16, no. 2-3 (2004): 201–2, https://doi.org/10.1080/10400419.2004.9651453.
73 Stephen Owen, *Readings in Chinese Literary Thought* (Cambridge, MA: Harvard University Asia Center, 1992), 352.
74 Polanyi, *Personal Knowledge*, 54.
75 Eisner, *Enlightened Eye*, 34.

Table 1 **A comparison between the schema- and sensibility-oriented approaches to cultivating designers' emotional connoisseurship.**

	Two Complementary Approaches to the Cultivation of Designers' Emotional Connoisseurship	
Orientation	Schema-oriented (top-down)	Sensibility-oriented (bottom-up)
Aim	Efficient establishment of initial schemas of emotion; acquisition of an initial vocabulary for communicating emotional phenomena.	Lifelong cultivation of emotional sensibility or acuity.
Means	Literature and design tools that present typologies, labels, definitions, and descriptors of emotions.	Workshops that impart introspection techniques for slowing down, estranging, observing, collecting, and sharing lived emotional experiences.
Knowledge of Emotion	Predefined, patterned, and labeled emotion categories.	Further refined and idiosyncratic emotions that cannot be easily named with culturally defined emotion labels.
Attitude Promoted	Detachment: Toward decreasing the uncertainty, complexity, and ambiguity of emotional realities.	Engaged detachment: Toward embracing uncertainty, complexity, and ambiguity of emotional realities.

The Three Pillars Supporting the Sensibility-Oriented Cultivation

How can we operationalize a sensibility-oriented cultivation of emotional connoisseurship? We propose that the cultivation can be supported by dedicatedly developing three necessary pillars (see Figure 2):

- meta-awareness of lived emotional experiences,
- learning and practice of introspection techniques,
- a cumulative personal reservoir of emotional incidences stored in memory.

The identification of these pillars is based on four major sources of information, which include 1) retrospectively reflecting on how we developed our own emotional connoisseurship and 2) learning from connoisseurship cultivation in other fields (e.g., winemaking, art history, and literature). Additionally, our propositions are supported by 3) a variety of research findings and 4) personal reflections reported by other emotion researchers.

Meta-Awareness (Detached Engagement)

According to James R. Averill, the foremost path to emotional creativity is "direct experience with emotionally arousing events, and reflection on, or learning from, those experiences."[76] The development of emotional connoisseurship shares a similar path that requires direct access to lived emotional experiences, which is possible only through meta-awareness or second-order awareness.[77]

76 Averill, "Individual Differences," 335.

77 Jonathan W. Schooler, "Re-representing Consciousness: Dissociations between Experience and Meta-consciousness," *Trends in Cognitive Sciences* 6, no. 8 (2002): 339–44, https://doi.org/10.1016/S1364-6613(02)01949-6; Jonathan W. Schooler, Erik D. Reichle, and David V. Halpern, "Zoning Out while Reading: Evidence for Dissociations between Experience and Metaconsciousness," in *Thinking and Seeing: Visual Metacognition in Adults and Children*, ed. Daniel T. Levin (Cambridge, MA: MIT Press, 2004), 203–26, https://psycnet.apa.org/record/2004-18818-010; John A. Lambie and Anthony J. Marcel, "Consciousness and the Varieties of Emotion Experience: A Theoretical Framework," *Psychological Review* 109, no. 2 (2002): 219–59, https://doi.org/10.1037/0033-295X.109.2.219.

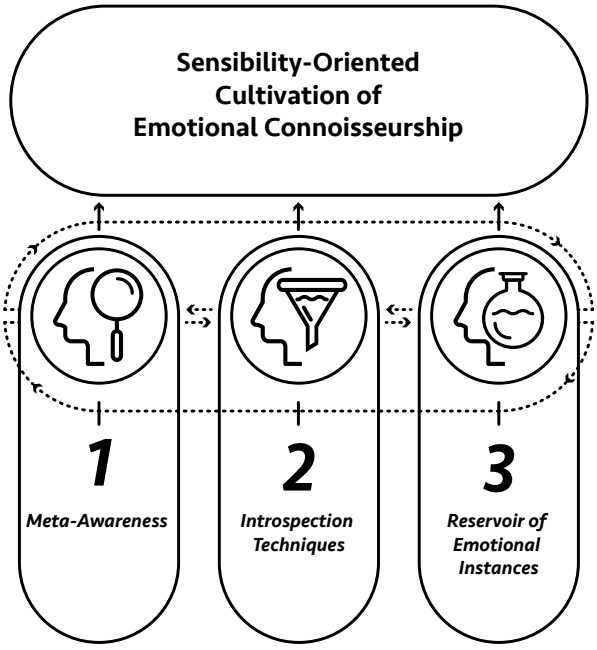

Figure 2
The three pillars that support sensibility-oriented cultivation of emotional connoisseurship. © 2024 the authors.

Recent research on consciousness has distinguished experiential consciousness (i.e., the contents of ongoing experience) from meta-awareness (i.e., one's explicit awareness of the contents of consciousness).[78] According to Jonathan Schooler and Iris Mauss, "central to this distinction is the claim that we can have experiences (experiential consciousness) without being contemporaneously aware of the nature of those experiences (meta-awareness)."[79]

Meta-awareness indicates a seemingly contradictory stance — engaged detachment, which requires one to immerse in emotional episodes (engaging with emotions), and simultaneously, prolong and partially stand aside the emotional processes (detaching from emotions), so that observation from within can take place. Engaged detachment, according to Nico Frijda and Louise Sundararajan, is "a detachment born of contemplation" with the behavioral actions restrained. This detachment allows for introspective reflection on emotions, enabling a deeper savoring of them.[80] We therefore take meta-awareness as the first pillar of sensibility-oriented cultivation of emotional connoisseurship.

Introspection Techniques

The capability of emotional introspection can be trained by acquiring and continuously practicing introspection techniques. Many important components of emotions are felt internally and thus are "subjectively self-evident but empirically inscrutable."[81] Therefore, introspection is necessary to comprehend the contents of emotion in detail and accumulate knowledge of emotions.[82] However, "most people are poor introspectors of their own

78 Schooler, "Re-representing Consciousness," 339; Jonathan W. Schooler and Charles A. Schreiber, "Experience, Meta-consciousness, and the Paradox of Introspection," *Journal of Consciousness Studies* 11, no. 7-8 (2004): 19, available at https://psycnet.apa.org/record/2004-18852-003.

79 Jonathan W. Schooler and Iris B. Mauss, "To Be Happy and to Know It: The Experience and Meta-awareness of Pleasure," in *Pleasures of the Brain*, ed. Morten L. Kringelbach and Kent C. Berridge (New York: Oxford University Press, 2010), 244.

80 Nico H. Frijda and Louise Sundararajan, "Emotion Refinement: A Theory Inspired by Chinese Poetics," *Perspectives on Psychological Science* 2, no. 3 (2007): 231, https://doi.org/10.1111/j.1745-6916.2007.00042.x.

81 Schooler and Schreiber, "Experience, Meta-consciousness," 18.

82 Bertille De Vlieger and Anna Giustina, "Introspection of Emotions," *Pacific Philosophical Quarterly* 103, no. 3 (2022): 552, https://doi.org/10.1111/papq.12395.

ongoing conscious experience."[83] Fruitful introspection is not as simple as "just take a look."[84] Rather, it requires dedicated learning and practice of introspection techniques, which can be demanding and time-consuming.[85]

While exploring and collecting introspection techniques that could be adapted to enhance designers' emotional connoisseurship, we have discovered a wealth of valuable practices rooted in diverse traditions, involving the scientific, artistic, and religious, spanning Eastern and Western cultures. They encompass a range of meditation techniques, such as various Buddhist methods,[86] a detached mindfulness technique developed for cognitive therapy,[87] the estrangement technique originating in literary art (Russian formalism),[88] the Alexander technique derived from somaesthetics,[89] and the savoring technique for emotion refinement, which has its roots in the Confucian tradition of poetics.[90] For designers who would like to develop advanced capability of emotional introspection, these techniques must be consciously learned and practiced, which requires effort. Through repetitive practice of introspection techniques, tacitly monitoring and attentively observing one's own emotional experiences in everyday life gradually becomes a habit or predisposition. This predisposition, in turn, increases the ease and naturalness of having a detached engagement toward emotion. For EDD researchers, adjusting these techniques into actionable practices for designers also poses a new challenge, especially as the goal of preparing designers to adeptly work with emotions becomes more prominent in the research agenda.

Personal Reservoir of Emotional Incidences

Becoming "a collector of experiences" is what Lisa Barrett suggests to those who hope to improve their emotional granularity.[91] A long-term, deliberate construction of the first two pillars gradually leads to the formation of a third pillar: a personal reservoir of emotional incidences. This reservoir contains real-life emotions with a deep understanding of how they were lived and felt, along with rich contextual information. By "emotional incidences," we refer to the distinct individual occurrences of emotion, which may be, for example, collected as personal narratives. Although similar emotional incidences can be labeled as a broader emotional concept (e.g., nostalgia, love, loneliness), each of them—if more introspective attention is given to the idiosyncratic details—is unique. With more emotional incidences being cumulated, a personal reservoir of emotional incidences is gradually built, with increasingly refined categories. It can be seen as akin to the concept of the "allusionary base"[92]—a concept developed in arts and humanities. This refers to the personally stored concepts, images, and memories that provide the meanings with which we think, feel, understand, and create. As designers' personal reservoirs of experiences become richer, their awareness of the variety of emotional concepts and experiences become more developed. Consequently, their ability to compare, judge, seek insights, and envision emotions becomes more refined. We therefore consider the continuous enrichment of personal reservoirs of emotional incidences the third pillar of sensibility-oriented cultivation of emotional connoisseurship. Establishing this third pillar requires designers to make a habit

83 Eric Schwitzgebel, "The Unreliability of Naive Introspection," *Philosophical Review* 117, no. 2 (2008): 247, https://doi.org/10.1215/00318108-2007-037.

84 Francisco J. Varela and Jonathan Shear, "First-Person Methodologies: What, Why, How," *Journal of Consciousness Studies* 6, no. 2-3 (1999): 2, available at https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=3852a7981815f05f0a23e0710bbc7d6c52086ca3.

85 Stephen J. Gould, "Unpacking the Many Faces of Introspective Consciousness: A Metacognitive-Poststructuralist Exercise," in *Handbook of Qualitative Research Methods in Marketing*, ed. Russell W. Belk (Cheltenham, UK: Edward Elgar Publishing, 2006), 189–95, https://doi.org/10.4337/9781847204127.00022.

86 For example, see B. Alan Wallace, *Contemplative Science: Where Buddhism and Neuroscience Converge* (New York: Columbia University Press, 2007).

87 For example, see Adrian Wells, "Detached Mindfulness in Cognitive Therapy: A Metacognitive Analysis and Ten Techniques," *Journal of Rational-Emotive and Cognitive-Behavior Therapy* 23, no. 4 (2005): 337–55, https://doi.org/10.1007/s10942-005-0018-6.

88 For example, see Viktor Shklovsky, "Art as Technique," in *Literary Theory: An Anthology*, 3rd ed., ed. Julie Rivkin and Michael Ryan (Maiden, MA: Wiley Blackwell, 2017), 8–14.

89 For example, see Richard Shusterman, *Body Consciousness: A Philosophy of Mindfulness and Somaesthetics* (Cambridge: Cambridge University Press, 2008).

90 For example, see Frijda and Sundararajan, "Emotion Refinement"; Louise Sundararajan and James R. Averill, "Creativity in the Everyday: Culture, Self, and Emotions," in *Everyday Creativity and New Views of Human Nature: Psychological, Social, and Spiritual Perspectives*, ed. Ruth Richards (Washington, D.C.: American Psychological Association, 2007), 195–220, https://doi.org/10.1037/11595-013.

91 Lisa Feldman Barrett, *How Emotions Are Made: The Secret Life of the Brain* (New York: Houghton Mifflin Harcourt, 2017), 180.

92 Harry S. Broudy, *The Role of Imagery in Learning* (Los Angeles: Getty Center for Education in the Arts, 1987), 18–22.

of collecting personal experiences. Its value may extend beyond preparing designers for EDD. It also enhances their creativity by providing a greater number and diversity of "dots" to connect, echoing Steve Jobs' views on the workings of the creative mind.

> "Creativity is just connecting things. When you ask creative people how they did something, they feel a little guilty because they didn't really *do* it, they just *saw* something.… And the reason they were able to do that was that they've had more experiences or they have thought more about their experiences than other people. Unfortunately, that's too rare a commodity. A lot of people in our industry haven't had very diverse experiences. So they don't have enough dots to connect, and they end up with very linear solutions without a broad perspective on the problem. The broader one's understanding of the human experience, the better design we will have."[93]

93 Gary Wolf, "Steve Jobs: The Next Insanely Great Thing," *Wired*, February 1, 1996, italics original, https://www.wired.com/1996/02/jobs-2/.

Conclusion

Having reflected on the development of EDD over the past twenty-five years, we observed a significant obstacle hindering its further advancement: a general lack of understanding and cultivation of the designer's emotional connoisseurship. To develop knowledge on this topic, in our current work we have intentionally embraced a preparation approach, deviating from the conventional predictability approach in improving design practice.

In Part 1 of this article, we introduced the concept of designers' emotional connoisseurship, integrating it into the scope of design connoisseurship. We have underscored its pivotal role in the successful practice of EDD and creativity at large. We reflected on the merits and limits of the schema-oriented approach to developing emotional connoisseurship. Specifically, in the early stages of emotional connoisseurship cultivation, it is useful — and necessary — for novice designers to engage in schema-oriented learning, such as acquiring knowledge of emotion categories and vocabulary that have been predefined and patterned by emotion researchers. This can be achieved by reading emotion research literature and using available EDD tools. However, continuous development of emotional connoisseurship requires lifelong cultivation, with a focus on *sensibility*. Novice designers must privately experience, deeply contemplate on, and mentally collect emotional instances as they are felt or lived from within to achieve this. Therefore, we have also established a foundational framework of three essential pillars for the sensibility-oriented cultivation of emotional connoisseurship. These pillars include meta-awareness, introspection techniques, and personal reservoir of emotional instances. Our intention has been to present a clear and compelling theoretical framework for our vision for the next stage in EDD development — the cultivation of the designer's emotional connoisseurship.

It is important to acknowledge the limitations of the scope of this review. Our analysis has been primarily grounded in well-established research on EDD, design expertise, and psychology. This may not cover all relevant work conducted in fields outside these mainstream circles. As demonstrated in the subsection of Introspection Techniques, we recognize the potential richness and inspirational value of those varied approaches. Therefore, such a

limitation might neglect influential perspectives that could offer additional depth to our analysis. This underscores the need for future research to embrace a broader range of cultural and disciplinary perspectives, which is also one of our intentions in Part 2 of this article.

In Part 2, we will focus on more practical issues and report the development and test of a pedagogical initiative, the Experience Design Introspection (XDI) workshop. This workshop is intended to introduce a series of introspection techniques to novice designers and guide them to begin a sensibility-oriented self-cultivation of emotional connoisseurship.

Declaration of Interest

There are no conflicts of interest involved in this article.

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