Ways of Knowing in Interior Design: Embracing Unpredictability

This presentation is based on Barbara Young's 2024 article "Ways of Knowing in Interior Design: Embracing Unpredictability" published in *Design Studies*. The paper explores interior design as both a discipline and profession with its unique epistemology. The author emphasizes that the core value of interior design lies in its human-centered approach, valuing dialogue, subjectivity, and the embrace of unpredictability in the design process. This presentation summarizes key arguments, important concepts, and supporting evidence from the article to deepen the understanding of contemporary interior design theory and practice.

投稿人：**Youn hanchen**

Identity and Epistemology of Interior Design

Interior design has recently strived to establish itself as a professional and academic discipline with a distinct body of knowledge. However, its identity remains contested. Mainstream media often portrays it as “a luxury service for home decoration,” which fails to reflect the industry’s broader scope. Academic and professional debates persist regarding its identity, often relating to its ties with architecture and decoration, and its inherently gendered skills and political boundaries.

The article asserts that interior design goes beyond the “art and science” binary. It is “part of a cultural inquiry in design, involving holistic, multifaceted ways of knowing, with a strong emphasis on empathy and appropriateness.” While the field has successfully distinguished itself from interior decoration, its relationship with architecture remains ambiguous—particularly when terms like “interior design” and “interior architecture” are used interchangeably.

Human-Centered Design and Embracing Unpredictability

The author emphasizes that interior design is inherently human-centered. “Our body of knowledge has been articulated and refined to demonstrate that this discipline is rooted in human-centricity.” The paper argues that interior design must embrace the constant changes brought by habitation: “Interior spaces evolve through occupation. Designers, like participatory design agencies, value user agency post-implementation.”

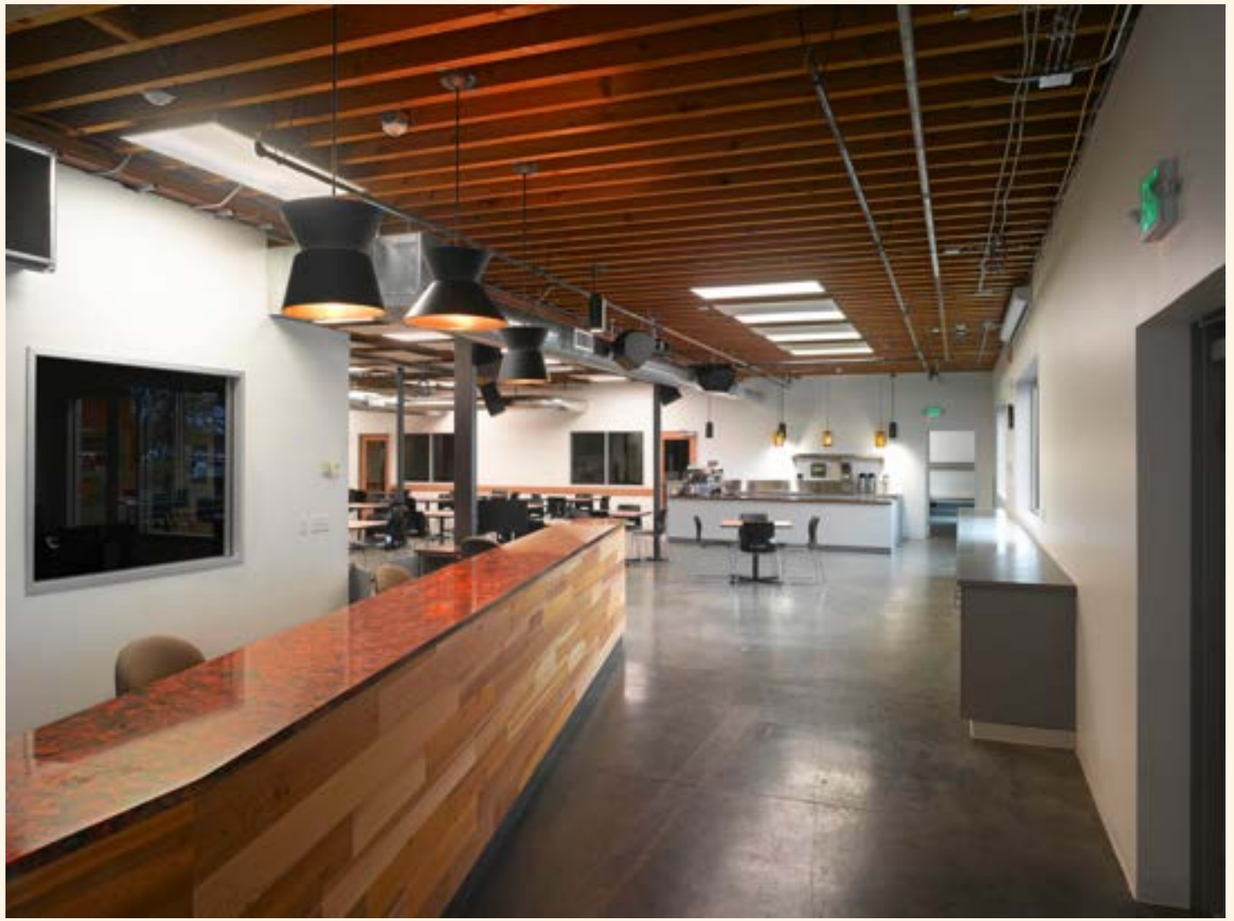
Designers must not only accept but *embrace* ambiguity and subjectivity rooted in socio-cultural contexts as essential design material. The notion that “process is the product” contrasts with other built environment disciplines, such as architecture, which often focus on formal outcomes. The article highlights a worldview that prioritizes people over objects—an outlook that aligns with the inherent unpredictability in interior design practice.

The Value of Dialogue and Subjectivity in Design

Echoing Poldma (2008), the author views interior design as inherently dialogical, appreciating design as a process. Extending Pable’s (2009) perspective, the paper argues for the importance of subjectivity in the design process, which is often overlooked by object-centered, objective perspectives. This process-driven approach acknowledges that design outcomes “exist in a constant state of flux, requiring respect for the changes that arise through everyday living.”

Case Study: The Evolving Design of Recovery Café

A case study of the Recovery Café, a nonprofit organization, illustrates the practical application of interior design epistemology. The project aimed to transform and furnish a multipurpose space for recovery support and youth afterschool programs. It documents the evolution of design intentions, merging client values (person-centered recovery care) with interior design values (based on humanistic psychology).



Letting Go of Authorial Control and Granting User Agency

A student initially involved in independent research realized the importance of user agency after seeing how the space had diverged from its original plans:
“The organization and its members were changing the space to make it their own—that’s what truly gave me comfort. After all, that was the intention of the space.”

The student recognized that the design’s value lay in empowering users with flexibility to adapt the space:
“We gave them flexibility in furniture choices so they could adapt as their members changed. In hindsight, we really prepared them for success in that way… Seeing them change it—that might be one of the most rewarding outcomes. That’s exactly what we wanted to happen.”

Inevitable Spatial Evolution and Cultural Values

Quoting Stewart Brand (1995), the article notes that interior spaces change faster than architectural exteriors, with “stuff” like furniture, fixtures, and equipment changing the most rapidly. The author stresses that space use is fluid—different groups (afterschool youth programs, Bible study groups, etc.) adapt spaces according to their needs.

These changes reflect evolving cultural values. As Foucault and Miskowiec (1986) argued, spatial meaning changes with cultural attitudes. Citing Umberto Eco (1986), the article suggests that “architects should design for a primary function that is variable and secondary functions that are open.” Designers must be prepared to accommodate spatial change flexibly.

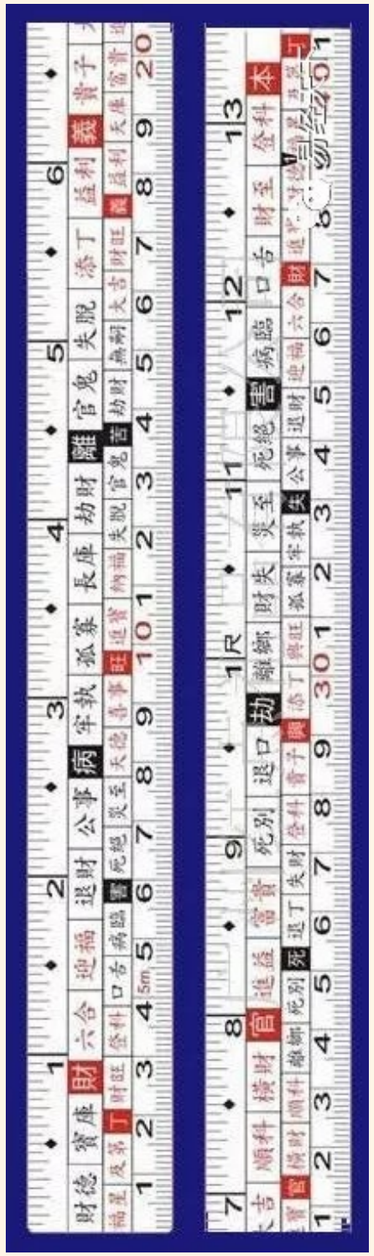
Conclusion: Ways of Knowing and Future Directions in Interior Design

The article concludes that regardless of terminology, what matters is clarity in following the “designerly ways of knowing” (Cross, 1982), which involve human-centricity, empathy, functionality, and appropriateness—embracing both objective and subjective realities.

Unlike architectural theories that treat occupants as abstract viewers or architecture as a container, interior design treats occupants as embodied cognitive agents who make decisions within space based on unique life experiences. Designers must remain engaged with the spaces they create—revisiting them over time, observing signs of use, and continuously re-evaluating their intentions, assumptions, and positions.

華人文化的室內設計-魯班
簡單介紹魯班尺的科學背景與用法

Ancient artifacts are auspicious, and the dimensions of buildings and furniture are accurately measured by Luban rulers. In the Forbidden City, all the doors of the main hall, including furniture and other utensils, are made according to the size of the Luban ruler. For example, the size of the doorway, the Qing Dynasty "Ministry of Engineering Practice Rules" listed 124 kinds of doorway sizes ruled according to the Luban ruler, including 31 Tiancai Gate, 31 Yishun Gate, 33 Guanlu Gate, and 29 Fude Gate. The strict production size ensures the frequent appearance of the auspicious number "nine" in the Forbidden City building, which meets the emperor's requirements for the meaning of "Ninety-Five", "Permanent", and "The country will never change color". The standard size of the Luban ruler is 46 cm, and the ancient Luban ruler is 46.08 cm long. And this size is related to cosmic microwave radiation, which can affect human waves.



歡樂：指氣氛或事件。友善、活潑、令人愉快。

Toward a Convivial Design

邁向歡樂設計

Design Issues, Vol. 40, No.1, 2024

Carlo Franzato

2025/06/11導讀：林育陞

✅ 簡單導讀/個人整理

- 本篇論文《Toward a Convivial Design(邁向歡樂設計)》由Carlo Franzato 撰寫，刊登於Design Issues, Vol. 40, No.1, 2024
- 深度探討Ivan Illich神父的思想，並聚焦於《歡樂的工具(Tools for Conviviality)》著作，將Illich神父前瞻性的概念，應用在當代設計領域，提出了邁向「歡樂設計」的可能路徑、概念及方法論。
- 作者聚焦在重新檢視永續性設計(Design for sustainability)與協同設計 (Codesign)這兩個領域的對應關聯，試圖提出新的視角，以及批判。

✅ 簡單導讀/個人整理

- 本期刊論文沒有表格、視覺圖表與實驗數據，僅有文字撰寫之參考依據、辯證、整合提出作者自己的想法。
- 寫得偏理論、抽象、個人思想(理念)的理論詮釋，使用的語言很接近哲學與設計批判的學術風格(尤其抽象詞語)，特別受到Ivan Illich神父所提出的思想所影響。
- 大量引用歷史文獻與哲學概念（例如 eutrapelia、倫理、美德）；並非設計操作手冊，而是「思想檢視、介入」與「價值觀的批判」。
- Eutrapelia: At the end of the introduction to Tools for Conviviality, he introduces the concept of “eutrapelia,” a term from Greek that is understood as graceful playfulness and a wise manner of enjoying life together. (在《歡樂工具》介紹的最後，有說明「eutrapelia」的概念：一個源自希臘語的術語，被理解為「優雅的嬉戲和共同享受生活的明智方式」。)

本文開始

這篇期刊的閱讀深度極深，哲學思考與批判性思考的含量極高

奠基於Ivan Illich神父的著作及思想

✅ Abstract/摘要

This article is inspired by the work of Ivan Illich, especially ***Tools for Conviviality***, which critiques industrialization and elaborates Illich's proposal for conviviality and is a major influence on post-development theory. In the early 1970s, Illich anticipated issues that design begins to explore only at the end of the twentieth century. This article discusses what he anticipated and develops this into practical suggestions for the evolution of design. Above all, the article provides suggestions for two intertwined design fields: design for sustainability and codesign. An analysis of Illich's work allows for the identification of three methodological movements acting toward a convivial design: (1) conduct a critique of the status quo, (2) imagine alternative proposals, and (3) carefully qualify the ethos of alternatives.

Key words: design for sustainability, codesign, convivial design, tools, postdevelopment

✅ Abstract/摘要

- 本文受Ivan Illich(伊凡·伊里奇)著作《***Tools for Conviviality***歡樂工具》的啟發，該著作批判工業化，提出「歡樂Convivial」的概念，並深刻影響後發展理論。
- 作者認為，Ivan Illich在 1970 年代初便預期到許多設計領域的問題，但這些設計問題直到 20 世紀末才開始被拿出來探討。
- 本文羅列出Ivan Illich的「預期」，並轉化為推動設計發展的實務建議。

Ivan Illich

Ivan Illich，1926年9月4日—2002年12月2日
奧地利克羅埃西亞裔哲學家、羅馬天主教神父。他是現代西方文化制度的批評者，包括當代教育、醫療、工作、能源使用、交通和經濟發展各方面。
1971年出版《去學校化社會 Deschooling Society》一書引起了公眾關注。該書是對強制性的義務教育的突破性批評。他認為，學校制度的壓迫性結構無法改革，必須廢除，以便使人類擺脫終身制度化的破壞性影響。

✅ Abstract/摘要

- 本文特別針對二個相互關聯的設計領域提出建議：
  1) 永續設計（Design for sustainability）
  2) 共同設計 / 協同設計（Codesign）
- 透過對Ivan Illich提出的思考進行分析，歸納出三個**邁向歡樂設計**的**方法論**：
  1) 批判現狀與發展 / Conduct a critique of the status quo
  2) 想像替代方案 / Imagine alternative proposals
  3) 明確界定替代方案的精神價值(ethos) / Carefully qualify the ethos of alternatives

- 關鍵詞： design for sustainability, codesign, convivial design, tools, postdevelopment
  永續設計、共同設計、歡樂設計、工具、後發展理論

✅ Introduction/引言

- 論文目的： 本文旨在闡述 Illich 的「預見」，作者Carlo Franzato將其發展為設計演變的實用建議，特別是**永續性設計**和**共同(協同)設計**提供思考方向。
- 提出Ivan Illich的「**歡樂設計 convivial design**」作為設計領域回應當代危機（環境、社會、全球化、去殖民化視角）的概念性主張。

  闡述：設計應該從目前不可持續的工業模式中抽離，重新思考其意義與方法。
- 本文研究目標：作者並非建立一套新的設計法則，而是提出三個「**方法論**」作為設計實踐反思與進化的基礎。

- 補充：不可持續的工業模式意指，目前的工業模式導致了1.**環境層面**：資源耗竭，生態破壞。2.**社會層面**：工具壟斷，自主性喪失，專業化壓迫，社會不公。3.**文化層面**：文化同質化，地方知識消逝。4.**精神層面**：價值觀扭曲，人性異化。

✅ Notes on the Life of Ivan Illich/ Ivan Illich的生平

- Ivan Illich，1926 年出生於維也納，學識飽滿，精通多國語言，熟悉拉丁美洲文化。
- 是歷史學家、社會評論家、哲學家，也是羅馬天主教神父。
- 1961年成立「跨文化中心Center for Intercultural Formation (CIF)」，1961年代末，轉到「Intercultural Documen-tation Center (CIDOC)，CIF的分支單位」工作
- 其思想對「後發展理論（ postdevelopment theory ）」影響深遠。
- 瞭解Illich神父的生平，有助於理解其思想背景的形成，以及他為何能提出如此深刻的社會批判。他的跨領域背景和對人類解放的關懷，是其「歡樂」思想的根基。
- 作者藉此強調Illich的思想並非僅限於學術討論，而是源於其對人類社會深切的關懷與反思。

✅ Notes on the Life of Ivan Illich/ Ivan Illich生平

- Ivan神父的核心著作包括：
- 《 Deschooling Society(1971)非學校化社會》：批判西方教育體系與制度
- 《 Energy and Equity(1974)能源與公平》：提倡低耗能的解決方案（例如腳踏車）
- 《 Medical Nemesis(1975)醫學復仇者》：批評過度醫療化的現況
- 《 Tools for Conviviality(1973)歡樂工具》：提出「工具應服務於人類」的核心理念，也是本期刊聚焦的著作。

✅ Tools for Conviviality/歡樂的工具

- 本節聚焦在Illich神父於1973 年出版的代表作《歡樂的工具Tools for Conviviality》，闡述其對工業化社會工具的反思。其主要論點：
- 對「工具」的批判： Illich認為工業化社會製造的「工具(廣義指技術、機構、系統)」往往超越了人類的控制，成為主宰人類生活的「壟斷性」工具，而非賦予人類能力的「歡樂」工具。

✅ Tools for Conviviality/歡樂的工具

- 根本性壟斷(radical monopoly)：當工具的效率達到某個效率閾值(threshold of effectiveness)，它們便會產生反作用，剝奪人類的自主性和創造力，導致社會的「制度化危機」。例如，交通工具的極端發展反而剝奪了人們步行或騎自行車的自由 / 路權、移動成本的相關議題 (Illich著作：Energy and Equity，1974)。
- 「使用工具」的重要性： Illich提倡「工具應保持在人類可理解、可控制的尺度內，賦予使用者自主權，而非將其鎖定在依賴單一系統的模式中(壟斷或演變成依附關係)」。
- 與設計的連結： 本章為後續章節做鋪陳，引導讀者思考「設計活動中工具的本質」，以及設計師如何避免創造出阻礙人類自由和自主性的工具。

✅ Conviviality/歡樂，Illich對「歡樂」概念的核心思想。

- 本節詳述「歡樂」的定義：Illich將「歡樂」定義為「自主和相互依存的個人透過個人自由，在沒有壓迫性強制的情況下，能夠實現的最大行動自由」。
- 「歡樂」是一種人與人之間、人與環境之間、人與工具/系統/整體之間，都能保持平衡、互惠、自主的狀態。
- 它強調「個人創造性自主(creative autonomy)」和「多重平衡(multiple balance)」，即是在生產、消費、交通等各方面都能保持平衡，避免過度專業化和壟斷。

✅ Conviviality/歡樂，Illich對「歡樂」概念的核心思想。

- 歡樂與設計的關聯：歡樂的目標是建立一個能讓每個人都能參與定義自身未來、並能運用工具來實現自主的社會。對設計師來說，意味著設計的目標不應僅是效率或產量，而是要促進人類的自由、創造力和相互連結。

- **Conviviality歡樂的中文翻譯：**

  Conviviality：the quality of being friendly and lively; friendliness.(Google字典)

  Conviviality：the quality of being friendly and making people feel happy and welcome .(劍橋字典)

  歡樂：友善活潑的品質；友善。友好；歡樂，愉快

✅ Conviviality/歡樂，Illich對「歡樂」概念的核心思想。

- **補充Conviviality歡樂，在Illich思想中的核心意涵**

  自主性 (Autonomy)： 強調個體對工具和生活的掌控權，不被系統或專業化所剝奪。

  相互依存 (Interdependence)： 強調人與人之間、人與環境之間、人與工具之間健康的關係，而非壓迫或剝削。

  非壟斷性 (Non-monopolizing)： 批判工具/系統在達到某種臨界點後，會形成「根本性壟斷」，排擠其他選擇，剝奪自由。

  去專業化 (Deprofessionalization)： 挑戰專業知識的絕對權威，鼓勵普羅大眾的參與和共同創造。

  限制性成長 (Limited Growth)： 對無限增長和追求效率的反思，主張工具應有其適當的「尺度」。

  Eutrapelia（真我/愉悅的）： 更高層次的情感與精神狀態，如清醒、喜悅、優雅、嬉戲和友誼，是歡樂社會所追求的非物質價值。

- 不似「友善設計」、「關懷設計」或「以人為本的設計」的字面詮釋，Illich的『歡樂』有更深度的**批判性**的視角。

✅ A Critical Perspective for Rethinking Design/反思設計的批判性視角

- 本節將Illich的批判性思想應用於設計領域，提出重新審視現有設計形式的必要性。

  Illich 對設計的啟發：

  質疑線性發展觀：Illich挑戰了根深蒂固的線性發展和技術進步觀點，提醒設計師不能盲目追求「更多、更快、更大」。

  超越專業化： 他批判了過度的專業化和知識壟斷，這意味著設計師不應將自己視為唯一的「專家」，而應鼓勵使用者參與。

  重新定義“問題”：Illich 鼓勵設計師不僅解決現有問題，更要反思問題的根源，挑戰被視為理所當然的「需求」和「解決方案」。

- **與永續性設計的連結**： 本節強調「永續性設計概念」本身的批判性思考，避免將其簡化為技術層次的解決方案，而是要深入探討其背後的社會、經濟和文化根源。

✅ Anticipating the Discourse on Design for Sustainability/展望永續發展設計討論

- 本節闡述Illich的思想如何「預見」並促進了永續性設計的討論。列出Illich對永續性設計的貢獻：

  超越效率：永續性不應僅追求資源效率或環保技術，更應關注社會公平、人類福祉和地球承載力。Illich的「工具尺度」概念在此尤為重要。

- **在地化與多樣性**：Illich提倡去中心化和在地化的生產與消費模式，鼓勵文化和生態多樣性，這與永續性設計的在地化、循環經濟等理念相符。

- **人類自主與參與**：永續性設計應賦予社群力量，讓他們參與決策，而不是被動地接受由專業人士提供的解決方案。

✅ Anticipating the Discourse on Design for Sustainability/展望永續發展設計討論

- 本文作者提出在永續發展設計的實際應用。
- 提示設計師在進行永續性設計時，要警惕潛在的「綠色清洗」或表面文章，趨向真正推動深層次的社會和系統變革。

- 補充：

  Illich的**批判性視角**，促使我們思考：我們所設計的工具、系統(甚至制度)，究竟是賦予我們更多的自由和選擇，還是無形中剝奪了我們的權力，讓我們變得更依賴、更不自主？

✅ Anticipating the Discourse on Codesign/預測關於共同設計的討論

- 本結探討Illich的思想如何與共同設計(Codesign)的原則不謀而合。Illich 對共同設計的啟發：

  去專業化與賦權：Illich批判專業知識的壟斷，主張將權力下放給普通人。這與共同設計的核心理念——讓使用者或利害關係人參與設計過程——高度契合。

  參與式決策：Illich認為社會的未來應由所有人共同定義，而非交由專業精英。這鼓勵了共同設計中的開放性對話、協商和集體決策。

  共同創造與自主性：共同設計旨在賦予參與者創造性的自主權，讓他們不僅是設計的接受者，更是設計的共同創造者，這與Illich提出的「歡樂」理念相符。

✅ Anticipating the Discourse on Codesign/預測關於共同設計的討論

- 本文作者提出在進行共同設計時，可能面臨的挑戰。
- 共同設計在執行中可能面臨的挑戰，例如如何有效促進多元觀點的交流，避免新的權力不平衡。

- 補充：

  它呼籲設計師要深度思考，如何設計出「**讓大家都能用、能參與、能自主創造，而非被少數人/企業/資本家或技術所壟斷**」的工具和環境。

✅ Toward a Convivial Design/邁向歡樂的設計（結論）

1. **批判現狀 (Critique of the Status Quo)**：深度批判工業化模式及其衍生的系統性問題。Illich視角：

   專業壟斷 (Professional Specialization)： 知識與權力過度集中於少數專業人士。

   本末倒置 (Inversion of Means and Ends)： 工具（手段）反過來主宰目標（目的），人類服務於系統。

   根本性壟斷 (Monopolization)： 工具達到特定效率後，剝奪基本選擇，造成反作用。

   技術官僚化 (Technocratic Institutionalization)： 社會由技術和官僚體系主導，而非人際互動。

   設計師角色： 反思自身在這些不可持續系統中的參與與推動。

✅ Toward a Convivial Design/邁向歡樂的設計

2. **想像替代方案 (Imagine Alternative Proposals)**：超越現有框架，大膽構想基於「歡樂」原則的可欲未來。Illich的啟發：

   去中心化 (Decentralization)： 鼓勵在地化與多樣性，非單一模式。

   賦權 (Empowerment)： 讓個體與社群擁有更多自主權，共同定義未來。

   解放 (Liberation)： 擺脫工業化和專業化的束縛，追求真正的自由。

   設計師任務： 不僅要解決眼前問題，更要創造性地提出----能促進自主與共生的全新設計路徑。

✅ Toward a Convivial Design/邁向歡樂的設計

3. **仔細限定替代方案的精神 (Carefully Qualify the Ethos of Alternatives)**：闡明所提替代方案背後的世界觀、倫理、意圖與價值觀。Illich強調：

透明化設計倫理：清楚表達設計的願景、感受和立場。

「Eutrapelia」（愉悅的/真我）：追求歡樂社會中微妙的非物質感受，如清醒、喜悅、優雅、嬉戲和友誼。

參與式辯論：鼓勵所有參與者共同界定「什麼是真正可欲(desirable)的」社會與設計。

意指設計師與大眾一起批判性的思考並共同定義：我們真正想要生活在什麼樣的社會中？我們應該設計出什麼樣的工具和系統，才能實現那個理想的社會？

設計師責任：讓設計不只關乎實用性，更深入探討其所承載的文化、精神與情感價值，並開放其內涵進行公共辯論。

✅ Toward a Convivial Design/邁向歡樂的設計

- 總結意義： 這些運動旨在推動設計從僅僅提供解決方案，轉變為一項集體工作，以批判性地理解現實、想像替代性未來，並謹慎地界定設計倫理，參與關於真正可欲之事的辯論。

- 補充：

  本文作者與Illich神父倡議的「批判性思考」，我們現在的「以人為本設計」是否真的解決了根本問題，還是只是讓不合理的事物變得更貌似「友善設計」？

✅ Acknowledgments/致謝

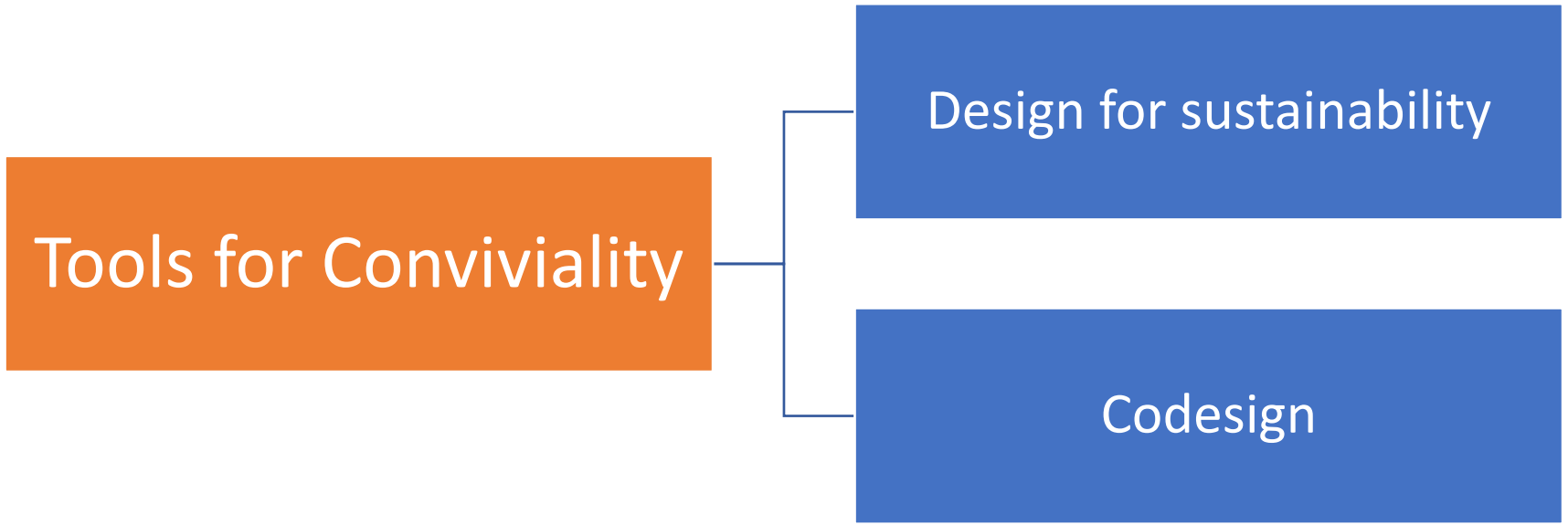
- The author thanks the Brazilian National Council for Scientific and Technological Development (CNPq) for the Research Productivity Scholarship. Moreover, this study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior [Co-ordination for the Improvement of Higher Education Personnel] – Brasil (CAPES) – Finance Code 001.
- 作者感謝巴西國家科學技術發展委員會（CNPq）提供的研究生產力獎學金。此外，本研究部分經費由巴西高等教育人員改進協調機構（CAPES）資助，經費編號為001。

論文結構解析

這是一篇出色的期刊論文，思辨邏輯清晰，用詞遣字也相當哲學專業

✅ 期刊撰寫結構

- 本篇期刊論文的核心，是作者引用Ivan Illich的著作《歡樂的工具(Tools for Conviviality)》為出發，展開作者對永續性設計(Design for sustainability)與協同設計(Codesign)這兩個領域的看法。



✅ 期刊撰寫結構

- 清晰的引導與核心概念引入 (Introduction, Notes on the Life of Ivan Illich, Tools for Conviviality, Conviviality)：
- 明確指出其受 Illich 啟發，並逐步介紹 Illich 的生平及核心思想，特別是《歡樂的工具》和「歡樂」的概念。
- 由淺入深、逐步鋪墊的方式，讓讀者即使不熟悉 Illich 也能跟上作者的思路。
- 先介紹思想家，再介紹其核心著作與理論，符合學術論文中對理論基礎進行鋪墊的慣例。
- 將「歡樂」概念獨立成章，突顯了其在論文中的重要性，也方便讀者理解作者後續如何應用此概念。

✅ 期刊撰寫結構

- 嚴謹的理論應用與延伸 (A Critical Perspective for Rethinking Design, Anticipating the Discourse on Design for Sustainability, Anticipating the Discourse on Codesign)：
- 在確立Illich的理論基礎後，作者將其思想系統性地應用於設計領域，並明確指出其對「永續性設計」和「共同設計」這兩個具體領域的啟示。
- 「理論—應用」的結構非常清晰。
- 章節標題明確，讓讀者一眼就能看出每個章節的論述重點，有助於讀者掌握論文的主線。
- 將Illich的預見與當前設計趨勢（永續性設計和共同設計）連結，展現了作者的觀察力，也證明了Illich思想的當代價值。

✅ 期刊撰寫結構

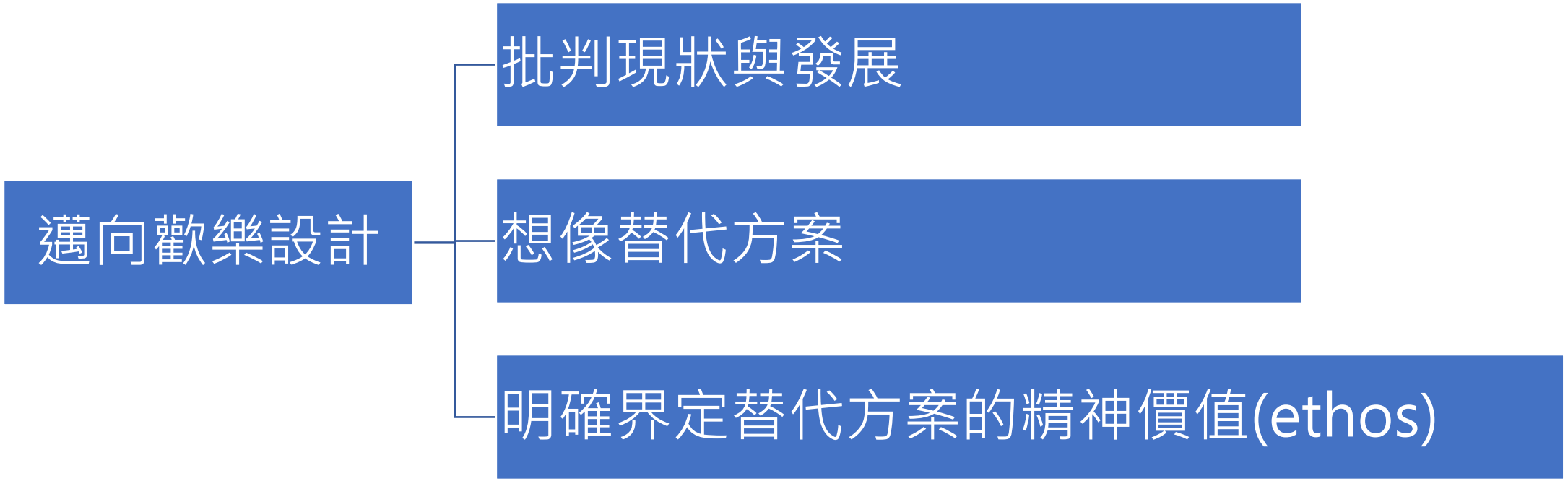
- 明確的方法論、歸納與實踐建議 (Toward a Convivial Design)。
- 結論提出的「三個方法論」，是對全文所有討論的總結，提供具體可行的設計實踐方向。是論文的創新和貢獻所在。
- 「**提出問題—分析理論—應用理論—提出解決方案/方法論**」的結構，是學術論文寫作中常見且有效的方式，展現其邏輯的嚴謹、連貫與一致性。
- 雖然沒有獨立的「文獻回顧」章節，但作者在各個章節中都有對相關設計理論和實踐的批判性思考，例如對「永續性」概念的淺層理解進行反思。這表示作者對該領域有深入的理解，並有紮實的文獻回顧與批判性思考。

✅ 期刊撰寫結構

- 缺少明確(或正式)的「文獻回顧」章節，做更詳細的理論陳述：
- 對於不熟悉Illich的讀者來說，雖然論文有介紹 Illich 的生平與著作，但缺乏獨立的、更全面深入的「文獻回顧」章節，來說明Illich在學術脈絡中的位置，以及作者在導入Illich思想後，與其他設計理論家的對話關係。
- 若能更明確地指出Illich的思想/歷史定位，如何與其他當代設計理論（例如批判設計、社會設計、轉型設計等）進行對話或區隔，或可能讓論文的學術地位更為突出。

✅ 期刊撰寫結構

- 論文在提出「邁向歡樂設計的三個方法論」時，主要是概念層次的闡述。如果能加入一些具體的設計案例，來具體化這些方法在實際設計專案中可能應用，或許會讓讀者更容易理解和操作。以博士研究而言，提出可操作性強的「具體建議」會是論文的亮點。



✅ 期刊撰寫結構

- 第三個方法論運動「**明確界定替代方案的精神價值 (ethos)**」是本文亮點，但其深度以及將「Eutrapelia」概念做引用，對不熟悉哲學或人文學科的設計科系學生來說很抽象。雖然作者有解釋，但在閱讀時會需要特別查找其相關語用/語法以及文獻。
- 作為一篇期刊論文，尤其是在設計學領域，作者若能更明確說明他是如何進行這項研究的（例如，是概念性研究？批判性分析？還是有對某些文本進行更深入的詮釋？），將有助於提升到更好的學術嚴謹度。

- Eutrapelia: At the end of the introduction to Tools for Conviviality, he introduces the concept of “eutrapelia,” a term from Greek that is understood as graceful playfulness and a wise manner of enjoying life together. (在《歡樂工具》介紹的最後，有說明「Eutrapelia」的概念：一個源自希臘語的術語，被理解為「優雅的嬉戲和共同享受生活的明智方式」。)

✅ 期刊撰寫結構

- **總結：**

  這篇期刊論文的撰寫結構是相當優秀的，作者有效地將一位深奧思想的哲學家+神父的理論引入設計領域，並提出了具有啟發性的實踐框架。

  優點在於邏輯清晰、理論應用嚴謹、結論具創新性。

  潛在的缺點則在理論對話的廣度（文獻回顧）和實踐案例的具體性上。

✅ 我的觀點

- **本篇論文的目標：**

  以人性的深層角度出發，

  批判性地審視當前的工業化現況及其所造成的『不可持續性』問題，

  目的在促進人類自主性、相互依存和整體福祉的『轉型性設計』，並試圖從根本上，

  重新定義我們生活、生產和設計的方式。

- 要達到“Eutrapelia”的境界與智慧，是非常非常困難的一件事。這也正是這篇論文的價值所在——它提出了一個雖然難以跳脫，但卻極具啟發性的理想，與一個批判性思考、值得追求改變未來的契機。
- 從(深層的)設計角度來看：資本主義與無限擴張的矛盾、消費文化的慣性與人的從眾、根深蒂固的人性與道德價值觀、國際貿易的權衡關係...都是當前面對的現實挑戰。

Moral Engagement in Design: Five Considerations for Unpacking the Ethical Dimensions of Design Methods

設計中的道德參與：拆解設計方法論倫理層面的五大考量

Deger Ozkaramanli, Michael Nagenborg

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Deger Ozkaramanli 德格爾·奧茲卡拉曼利

Profiel

Deger Ozkaramanli is an assistant professor in Human-Centered Design at Delft University of Technology, the Netherlands. She aims to advance knowledge and methods that can address the ethical and political qu estions that arise in design processes, through a focus on moral design dilemmas. She is fascinated by the richness of dilemmas as an interdisciplinary concept. That is why she has developed dilemmadriven design in her previous work, which she still pursues in bridging design ethics and design methods.

德格爾·奧茲卡拉曼利是荷蘭代爾夫特理工大學以人為本設計專業的助理教授。她致力於透過關注道德設計困境，推進能夠解決設計過程中出現的倫理和政治問題的知識和方法。她對困境這一跨學科概念的豐富性深感興趣。因此，她在先前的工作中發展了困境驅動的設計，並且至今仍在致力於連結設計倫理與設計方法。

資料來源：1. https://direct.mit.edu/desi/article-abstract/40/3/37/123240/Moral-Engagement-in-Design-Five-Considerations-for?redirectedFrom=fulltext （2025/06/09）
2. https://www.tudelft.nl/io/over-io/personen/ozkaramanli-d

Michael Nagenborg 麥可·納根博格

Profiel

Michael Nagenborg is an associate professor in Philosophy of Technology at the University of Twente, the Netherlands. He works on the intersection of cities and technologies. He is especially interested in Value Sensitive Design and other proactive approaches to address ethical challenges in design. His current research projects have a strong focus on AI. He is also teaching Design Ethics and related courses.

麥可·納根博格 是荷蘭特溫特大學技術哲學副教授。他致力於研究城市與科技的交叉融合。他對價值敏感設計以及其他應對設計倫理挑戰的積極方法特別感興趣。他目前的研究計畫主要關注人工智慧。他也教授設計倫理及相關課程。

資料來源：1. https://direct.mit.edu/desi/article-abstract/40/3/37/123240/Moral-Engagement-in-Design-Five-Considerations-for?redirectedFrom=fulltext （2025/06/09）
2. https://people.utwente.nl/m.h.nagenborg

Abstract

What society experiences today as morally questionable design—from gendered toys for children to public benches that prevent sleeping—can be considered the aftermath of an underdeveloped foundation for systematic ethical reflection in design methodologies. Although designing is an inherently moral activity, research on how to recognize and handle ethical questions and moral dilemmas in early (conceptual) design activities is scarce. In this article, we use an interdisciplinary lens to analyze and respond to the challenges of bridging moral psychology, ethics of technology, and design methodologies. For this, we introduce the concept of moral engagement in design, which is inspired by Moral Disengagement Theory. Finally, we propose five preliminary considerations for enacting moral engagement in design practices. These considerations form an interdisciplinary bridge to help us reflect on the moral dimensions of methodological choices in conceptual design practices.

design ethics, design methods, ethical reflection, moral dilemma, moral engagement

當今社會所經歷的道德上值得懷疑的設計——從帶有性別色彩的兒童玩具到妨礙睡眠的公共長椅——都可以看作是設計方法論中系統性倫理反思基礎不發達的後果。儘管設計本質上是一種道德活動，但關於如何在早期（概念性）設計活動中識別和處理倫理問題和道德兩難的研究卻很少。在本文中，我們採用跨學科的觀點來分析和應對連結道德心理學、技術倫理和設計方法論的挑戰。為此，我們引入了設計中的道德參與概念，該概念受到道德脫離理論的啟發。最後，我們提出了在設計實踐中實施道德參與的五個初步考慮。這些考量構成了跨學科的橋樑，幫助我們反思概念設計實踐中方法選擇的道德維度。

設計倫理,設計方法,倫理反思,道德兩難,道德介入

Introduction

We interact with numerous technologies every day.

Not only do these products serve utilitarian functions, but they also influence our norms, values, and practices in multiple and often controversial ways.

The idea that products influence human values and practices positively and negatively, and therefore deserve critical reflection, is not new. This is mainly the terrain of the ethics of technology.
Likewise, studying the act of designing these technologies is the terrain of design methodologies. In this terrain, how design methods can support the emergent and situated nature of ethical questions and moral dilemmas remains largely unexplored. To address this knowledge gap, we use an erdisciplinary lens to analyze and respond to the challenges of bridging design ethics and design methods

Autonomous vehicles

Toys

Smart wearable device

Literature Reviews

Vilém Flusser, who said: “The question of the morality of things, of the moral and political responsibility of the designer, has . . . taken on a new significance (indeed an urgency) in theontemporary situation./ The Ymposium “Ethics in Industrial Design?”

維倫 弗盧塞（Vilém Flusser）在「工業設計中的倫理？」研討會發表演講時說：「物品的道德性問題，設計師的道德和政治責任問題，在當代情況下已經……獲得了新的重要性（確實是迫切性）。」

Karsten Harries, In his work on the ethics of architecture, Karsten Harries made the useful distinction between kinds of disciplines: those that consider themselves to be value-neutral and those that acknowledge their normativity and (implicitly) aim at societal impact.

卡斯滕·哈里斯，對學科類型做出了有用的區分：一類認為自己是價值中立的，另一類承認其規範性並（含蓄地）致力於社會影響。

學科類型	特徵	舉例
價值中立（value-neutral）	自認為追求「客觀事實」、不帶道德立場	物理學、數學、純語言學、部分技術研究等
具有規範性（normative）	承認自己的行動會影響社會價值與行為	設計、建築、教育、社工、政策研究等

Literature Reviews

Victor Papanek drew attention to the moral and social responsibility of design as a discipline and a profession.

維克多·帕帕內克引起了人們對設計這一學科和職業的道德與社會責任的關注。他批判大規模的生產往往關注人們的需求 wants，而非他們的真正需求real needs。/ “Discovering Design” conference 《*Design for the Real World*》

In the chapter “Design Responsibility,” Papanek deconstructs five myths guiding the industrial design profession (mass production, obsolescence, people’s wants, lack of control, variety over quality).

在《設計責任》一章中，Papanek 剖析了指導工業設計專業的五個迷思（大量生產、過時性、人們的慾望、缺乏控制、重視多樣性而非品質）

Mass production vs.
Excess Capacity

Obsolescence vs.
Update

People’s wants

Lack of control

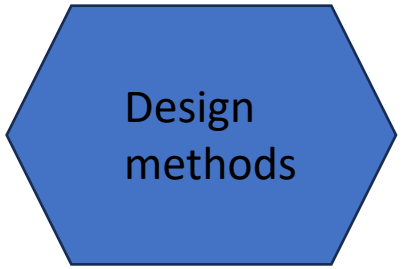
Variety over quality

	設計迷思	說明	當代表現實例
	大規模生產 （Mass Production）	相信只要能大量生產、降低成本就是好的設計。忽略在地性、多樣性、與可持續性。	IKEA 家具雖然便宜方便，但造成大量資源消耗與一次性丟棄文化；快時尚服飾品牌（如 SHEIN）加劇環境污染與勞工剝削。
	設計過時性 （Obsolescence）	故意設計讓產品快速過時或失效，好讓消費者持續購買新產品（技術或審美上的）。	手機常被設計為無法自行更換電池；蘋果被批評系統升級導致舊機變慢；流行趨勢快速更替的服飾。
	迎合人們的欲望 （People’s Wants）	設計以滿足消費者的「慾望」而非真正的「需求」，追求吸引注意、刺激購買。	例如：設計「美白」產品強化外貌焦慮，或設計高價名牌包僅為展現身分階級。
	失去控制 （Lack of Control）	設計師逃避責任，認為產品如何被使用不是自己能控制的事。	社群媒體平台設計演算法以刺激黏著，但設計師聲稱「平台只是工具」，不負假訊息與沉迷問題責任。
	重樣式輕品質 （Variety over Quality）	誤以為設計的多樣變化就是創新，而忽略實用性、耐用性與環境代價。	許多產品只是換色、換造型，功能本身沒有真正改善；過度包裝成為設計賣點但反而浪費資源。

Papanek 批評的是「設計淪為服務資本主義消費機器」的現象，這些迷思讓設計逐漸背離了改善人類生活與社會的初衷。他主張設計師應該回歸對「真實世界問題」的關懷。

Five decades later, these myths remain (more or less) unchallenged while design has been widening its scope.

Design mass-produced physical products



Help formulate policies and reimagine systems and cities

Public governance Management Health care

This points to the urgent need for a better understanding of the theory of design methods accompanied by an explicit discussion on the ethical qualities of design methods to foresee or overcome challenges ahead.

設計方法已進入公共治理、管理學、醫療照護等多種學術領域的學術論述之中。實務上，這表示幾乎任何人都可以採用並改造某種設計方法，來設計他們想要設計的任何事物。這也顯示出：我們迫切需要更深入地理解設計方法的理論基礎，同時公開討論這些方法所具備的倫理特質，才能預見並克服未來的挑戰。

One way to address this knowledge gap is to propose methods that foreground responsibility.

Van den Hoven and colleagues position Value Sensitive Design, Participatory Design, and Vision in Product Design as three potential methods that pay explicit attention to the designer's responsibility.

解決這一知識差距的一種方式是提出以責任為重點的方法。范登霍芬和同事們提出三種明確關注設計師責任的潛在方法。

1. Value Sensitive Design 價值敏感設計
2. Participatory Design 參與式設計
3. Vision in Product Design 產品願景設計

These three approaches, which are perhaps the most well-known among value-oriented design methods, pose a steep learning curve and tend to be demanding in execution.
Considering these challenges, we are propelled to critically examine and enhance existing design methods (vs. invent new ones) so that we can create room for ethical reflection at the intersection of design methods and designers as method users.

DEFINITIONS

our emphasis is on the activities that happen when designing technologies. Borrowing from Badke-Schaub, Daalhuizen, and Roozenburg, we define design methods as mental tools that “provide structure and support designers in dealing with complex and complicated problems in varying projects, contexts and environments.

借鑑 Badke-Schaub、Daalhuizen 和 Roozenburg 的觀點，我們將設計方法定義為心理工具，這些工具「提供結構並支持設計師應對各種項目、上下文和環境中複雜而複雜的問題。」

We are interested in conceptual design activities that occur at the early phases of the design process
Regarding design ethics, we assume that designers want to be ethical and that they have the freedom to make or influence design decisions.

我們對於在設計過程早期階段進行的概念設計活動感興趣。

關於設計倫理，我們假設設計師希望遵循道德標準並且有自由做出或影響設計決策。

We are interested in proposing an alternative perspective on how design activities could be organized to create room for moral engagement (in addition to studying how they are currently organized). Relative to that, most of our eflections and examples are situated in the design of products, services, and to some extent, systems.

我們有興趣提出一種替代視角，探討如何組織設計活動，以創造道德參與的空間（除了研究目前如何組織之外）。與此相關，我們的大部分思考和例子都是圍繞產品、服務的設計，以及在某種程度上，系統的設計。

Moral Engagement in Design: Five Considerations for Unpacking the Ethical Dimensions of Design Methods

MAIN SECTIONS

Introduction

Moral Engagement in Design

介紹道德參與的定義，作為連結倫理反思和設計方法的一個有用構念。

Challenges for Moral Engagement in Design

討論設計方法中整合倫理反思所面臨的三個主要挑戰，這導致了道德參與的五個關鍵考量。

Considerations for Moral Engagement in Design

設計中道德參與的五個考量因素，這些考量可以幫助我們批判性地反思設計實踐中的方法選擇。

Discussion

討論進一步研究道德參與的機會和挑戰，以及推進設計實踐倫理的新研究問題。

Conclusion

Moral Engagement in Design

We define moral engagement as recognizing and critically engaging with the ethical issues, political questions, and moral dilemmas that emerge in design practices.

我們將道德參與定義為認識並批判性地參與設計實踐中出現的倫理問題、政治問題和道德困境。

This definition of moral engagement is informed by the theory of moral disengagement,13 which explains how people cognitively separate actions from their moral principles to facilitate acting unethically without experi encing moral distress.

這種道德參與的定義受到道德脫離理論的啟發，該理論解釋了人們如何在認知上將行為與道德原則分開，以便能夠不道德地行事而不會感到道德上的痛苦。

Moral Disengagement Theory suggests eight mechanisms

、

moral justification（道德正當化）、
advantageous comparison（有利比較）
diffusion of responsibility （責任分散）
attribution of blame （指責他人）
euphemistic language（委婉語言）
displacement of responsibility （責任轉移）
distorting consequences （後果扭曲）
dehumanization （非人化）

這八種機制不是指某人「故意不道德」，而是說我們常會在制度壓力、慣性流程下，不自覺地進入這些合理化模式。設計師的「道德參與」（moral engagement）就是要時時察覺這些傾向，避免不自覺地傷害他人。

#	機制名稱	說明	設計實例
1	道德辯證（Moral justification）	將不道德行為合理化成「有意義的」目的	為了提升城市安全，設計一套全區監控系統，儘管它侵犯了隱私
2	語言美化（Euphemistic labeling）	使用中性或正向字眼美化行為	將資源掠奪性開發稱為「永續成長策略」
3	有利比較（Advantageous comparison）	把自己的行為與更糟的情況比較，讓自己看起來較無害	雖然我們的應用程式會收集資料，但至少不像某些社群平台那麼誇張
4	責任轉移（Displacement ofesponsibility）	將責任歸給上級、公司或客戶	「這是老闆要求的設計方向，我只是執行」
5	責任分散（Diffusion of responsibility）	責任由團體或多人分擔，不覺得是個人責任	「這是整個團隊一起決定的，不是我一個人說了算」
6	對後果淡化（Disregard or distortion of consequences）	淡化行為帶來的實際傷害	「只是個演算法而已，不會真的傷害誰」
7	去人性化（Dehumanization）	把受害者視為不是「真正的人」，降低同理	設計排除無障礙功能時，說「反正也沒多少殘障者使用」
8	責怪受害者（Attribution of blame）	將錯怪到被害者身上	使用者資料外洩後，指責使用者自己沒設定好隱私設定

Challenges for Moral Engagement in Design

Through reflection on our own work and interdisciplinary discussions, we identified three main challenges for an interdisciplinary bridge between ethical reflection and design methods, which are practice based, methodological, and political challenges.

通過對我們自己工作的反思以及跨學科的討論，我們確定了倫理反思與設計方法之間的跨學科橋樑存在三個主要挑戰，這些挑戰分別是基於實踐的挑戰、方法論的挑戰和政治挑戰。

Practice-Based Challenges 基於實踐的挑戰

Methodological Challenges 方法論的挑戰

Political Challenges 政治挑戰

Considerations for Moral Engagement in Design　設計中道德參與的考慮因素

we argue that moral engagement can best be understood as a quality of the interaction between design practitioners and the methods they use, rather than a quality warranted by either the designer or the method in isolation.

我們認為道德參與最能被理解為設計實踐者與他們使用的方法之間互動的特質，而不是由設計師或方法單獨所賦予的特質。

We propose five considerations for moral engagement in design. These consid erations evolved through our teaching practices, interdisciplinary reflexive dialogues, and interactive lectures at four different venues that included both academic and professional settings. We pose these as preliminary considerations that can be building blocks for a future theory on morally engaged design, and we mean them as a starting point for an interdisciplinary discussion rather than an established list of criteria.

我們提出了五個在設計中進行道德參與的考量。這些考量透過我們的教學實踐、跨學科的反思對話以及在四個不同場所的互動講座而演變，這些場所包括學術和專業環境。我們將這些視為初步考量，可以作為未來道德參與設計理論的基礎，我們的意思是，這些只是跨學科討論的起點，而不是一個確定的標準列表。

借鑒了我們的教學經驗 和兩個關於開發機場安全系統的大型聯合專案。這些專案由第二作者執行，並受到價值敏感設計思想的強烈影響。 36 我們選擇這些專案作為主要示例，因為它們提供了豐 富的、特定於上下文的、說明性的見解。同時，專注於一項特定技術（即機場安檢系 統）有助於我們專注於設計過程和方法決策。

- **Morally Engaged Design Does Not Outsource Morality 道德參與的設計不會外包道德**

If moral engagement is a quality of the designer–method interaction, it should not be outsourced to other actors in design practices.

如果道德參與是設計者與方法互動的特質，那麼它不應該被外包給設計實踐中的其他參與者。

「道德外包」（Outsourcing Morality）—也就是把道德判斷與責任交給流程、文件、參與者，而不由設計師親自承擔思考與檢討責任。

❌三種將「道德外包」的方式？

1. 道德外包給利益關係者：這種錯誤心態會讓設計師認為：「我只要照方法走，就不必對後果負責」「使用者自己參與設計，那就是他們的選擇」
2. 基於自由市場結構的設計決策的合理化：大家都這麼做
3. 道德審查委員會

- **Morally Engaged Design Demands Explicating One's Ethical Standpoint**
  道德參與的設計需要闡明一個人的道德立場

Morally engaged design asks for reflexive awareness that explicates one's positionality: the conditions of one's knowing and a disclosure of moral values that implicitly or explicitly guides designing. Morally engaged design does this by explicating one's moral and political standpoint in a design project.
It not only facilitates a value discussion among stakeholders, but it also engages in that discussion to question and update implicit values and unseen biases.

- **Morally Engaged Design Is a "Minimalist" Approach that Works with "Moral Touch Points"**
  道德參與設計是一種與「道德觸點」合作的「極簡主義」方法

We favor a minimalist approach to morally engaged design, which avoids overformalization of the design process.

道德參與設計要求反思性的意識，以闡明自身的位置性：個人知識的條件以及隱含或明示地引導設計的道德價值觀的披露。道德參與設計通過在設計項目中闡明個人的道德和政治立場來實現這一點。它不僅促進了利益相關者之間的價值討論，還參與該討論，以質疑和更新隱含的價值觀和看不見的偏見。

我們支持一種極簡主義的道德參與設計方法，避免對設計過程的過度形式化。。我們建議為方法論決策的批判性反思創造空間，而不是依靠方法來證明設計決策的合理性。畢竟，我們以設計師希望合乎道德為起點，並希望小心翼翼地在正式化道德和創造深思熟慮的空間之間取得平衡，以便道德反思可以成為設計中不可或缺的一部分。最後，以極簡主義方法為目標也有助於避免開發一種過度惡意的道德挑戰解決演算法"。
例如研討會，但這需要相當多的資源、金錢。

- **Morally Engaged Design Should Be Able to Deal with Conflicts, Tensions, and Dilemmas Typical of Moral Challenges**

  具有道德參與的設計應能夠處理道德挑戰中典型的衝突、緊張和兩難情況

- **Morally Engaged Design Should Account for Value Dynamism**
  道德參與的設計應該考慮價值活力

Discussion 討論

We introduce moral engagement to design methodologies as a new construct that can help us reflect on the relationship between designers and design methods. Moral engagement can best be understood as an attitude or a stance that characterizes design actions, and it is meant as a theoretical yet actionable starting point for those who are motivated by ethics and responsibility to advance their practices.

我們將道德參與引入設計方法論，作為一個新的概念，幫助我們反思設計師與設計方法之間的關係。道德參與可以理解為一種態度或立場，特徵化設計行動，並作為一個理論性但可行的起點，為那些受到倫理與責任驅動的設計師推進其實踐。

Simultaneously, and in line with recent research, this construct challenges the toolkit or checklist mindset in bridging design ethics and methods. Many such tools exist to train designers in different schools of thought in ethics or to highlight attention to specific ethical issues, such as gender sensitivity and inclusivity.

與此同時，根據近期的研究，這一概念挑戰了在設計倫理與方法之間搭建橋樑的工具包或檢查表思維。許多這樣的工具存在，旨在培訓設計師在不同的倫理思潮下，或是強調對某些特定倫理議題的關注，例如性別敏感性和包容性。

Although we recognize the need for promoting ethical reflection in design practices by scaffolding ethics-focused methods,focusing solely on methods may prevent a designer from internalizing the responsibility for ethical action.

雖然我們認識到透過建立以倫理為重點的方法來促進設計實踐中的倫理反思是必要的，但僅僅專注於這些方法可能會阻礙設計師內化對倫理行動的責任。

Discussion 討論

Specifically, we outline three main challenges for embedding ethical reflection in design practices, which are the limited uptake of research-based design methods in design practices (i.e., practice based challenge), the concern that ethical thinking may hinder design creativity (i.e., methodological challenge), and the risk of engaging with ethics superficially to escape hard regulations (i.e., political challenge)

具體來說，我們概述了在設計實踐中嵌入倫理反思的三個主要挑戰：基於研究的設計方法在設計實踐中的有限採用（即，基於實踐的挑戰）、對倫理思考可能妨礙設計創造力的擔憂（即，方法論挑戰）、以及為了逃避嚴格的規範而淺嘗輒止地參與倫理的風險（即，政治挑戰）。

To address these challenges, we see a greater need for constructs that can help mediate the relationship between design methods and designers as method users. By using the five considerations for moral engagement, design educators, researchers, and practitioners can think critically about method usage in design practices.

為了解決這些挑戰，我們看到對於能夠幫助調和設計方法和設計師作為方法使用者之間關係的構建的需求更大。通過使用道德參與的五個考量，設計教育者、研究者和從業者可以對設計實踐中的方法使用進行批判性思考。

Discussion 討論

Introducing moral engagement to design has two main implications for design theory. First, it helps sharpen the notion of responsibility in design.

將道德參與引入設計對設計理論有兩個主要影響。
加強設計中的責任觀念

Because we focus mostly on the morally engaged designer, one could argue that the outcome of design activities (i.e., products/ technologies) is more important in defining ethical design than the intention of the designer.

因為我們主要專注於道德參與的設計師，因此有人可以說設計活動的結果（即產品/技術）在定義倫理設計方面比設計師的意圖更為重要。

因為我們主要關注道德參與的設計師，所以有人可能會爭辯說，在定義道德設計時，設計活動的結果（即產品/技術）比設計師的意圖更重要。我們並不否認需要研究設計成果更廣泛的道德和社會影響。我們提出，設計倫理可以通過研究設計結果的影響和設計活動的道德維度的雙重關注來推進。本文是對後者的貢獻。最後，我們認識到道德參與和形式化之間的緊張關係。在為道德參與提供了五個初步考慮因素后，我們預見到這份清單有可能被用作清單，而不是討論和辯論的起點。我們看到設計教育者發揮著重要作用，他們可以將這些考慮因素轉化為教學理念，鼓勵將個人精力投入到道德反思的身體、認知和情感勞動中。

Discussion 討論

Future research can expand on the notion of moral engagement by exploring how moral disengagement mechanisms outlined by Bandura and colleagues manifest in design practices. This may lead to identifying strategies for moral engagement. Another interesting research question is: What is the influence of design expertise on moral engagement? Does moral engagement increase or decrease over time with increasing design expertise? What constitutes design expertise is an important research question in design research, and thus it seems crucial to understand whether and how to conceptualize moral engagement as an element of design expertise. As is evident in the multiplicity of these research questions, the notion of moral engagement and the preliminary considerations outlined in this article lay the groundwork for an extensive research agenda on design ethics from a methodological perspective.

未來的研究可以通過探索班杜拉及其同事所述的道德脫離機制在設計實踐中的體現來擴展道德參與的概念。這可能會導致確定道德參與的策略。另一個有趣的研究問題是：設計專業知識對道德參與的影響是什麼？隨著設計專業知識的增加，道德參與是否會隨之增強或減弱？什麼構成設計專業知識在設計研究中是一個重要的研究問題，因此，了解道德參與是否以及如何被概念化為設計專業知識的要素似乎至關重要。從這些研究問題的多樣性中可以看出，道德參與的概念以及本文中概述的初步考慮為從方法論角度出發的設計倫理廣泛研究議程奠定了基礎。

Conclusion 結論

The purpose of this article is to introduce the concept of moral engagement to design, which is inspired by Moral Disengagement Theory.50 We define moral engagement as recognizing and critically engaging with the ethical issues and moral dilemmas that emerge in design practices.

本文的目的是介紹道德參與的概念，這一概念受到道德脫離理論的啟發。我們將道德參與定義為認識並批判性地參與設計實踐中出現的倫理問題和道德困境。

Ethical reflection in design practices cannot be reduced to a method, toolkit, or any other form of add-on activity in design practices. In addition, we add to the discourse on what responsibility means in design through a methodological perspective and argue that ethical commitment is not guaranteed even if a method calls for it, which may be further complicated due to practice-based, methodological, and political challenges. This marks the need for new theories and constructs that may mediate the relationship between designers as method users and design methods.

設計實踐中的倫理反思不能簡化為一種方法、工具包或任何其他形式的附加活動。此外，我們從方法論的角度補充關於設計中責任意義的討論，並主張，即使一種方法要求倫理承諾，也並不保證這種承諾的存在，這可能因為基於實踐、方法論和政治的挑戰而變得更加複雜。這標誌著需要新的理論和構想，以調解作為方法使用者的設計師與設計方法之間的關係。

To address this need, we introduce moral engagement to design methodologies; to give form to this engagement, we propose five preliminary considerations. According to these considerations, morally engaged design does not outsource morality, demands explicating one's ethical standpoint, is minimalistic, and responds to value tensions and value dynamism. We situate these consider ations in theory and practical examples (i.e., the design of an airport security system) to illustrate their value for creating room for ethical reflection in design activities. Last but perhaps most important, we propose these considerations as an invitation to think critically about method usage in design, not as a framework to prioritize one method over the other.

為了滿足這一需求，我們在設計方法中引入了道德參與；為了給這種參與賦予形式，我們提出了五個初步考量。根據這些考量，道德參與的設計並不將道德外包，要求明確自己的倫理立場，具有簡約性，並回應價值緊張和價值動態。我們在理論和實際例子（例如，一個機場安全系統的設計）中定位這些考量，以展示它們在設計活動中為倫理反思創造空間的價值。最後但可能是最重要的是，我們將這些考量視為對設計方法使用進行批判性思考的邀請，而不是作為優先考慮某一方法的框架。

THAT WAS FUN, NOW WHAT?:
MODELIZING KNOWLEDGE DYNAMICS TO EXPLAIN CO-DESIGN'S SHORTCOMINGS
模型化知識動態以解釋協同設計的不足之處

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Design Theory and Methods for Innovation

Abstract

Co-design workshops aim to address complex, multi-stakeholder issues through facilitated engagement using simplified design tools. While they offer benefits in representation and acceptance, they often struggle to sustain engagement and produce innovative outcomes. Based on stylized facts and a minimal model, this study reveals a constrained "reactive expansion" dynamic that limits workshop effectiveness. The paper concludes with implications for facilitation and planning.

Introduction

Introduced in the 1970s, the term ‘co-design’ was first used to describe architectural and design choices made to ensure the optimal performance of new products.

Co-design workshops are short sessions run by designers with people who don’t know each other and aren’t trained in design.

Co-design aims to develop innovative solutions to complex, multi-stakeholder problems. The literature typically describes it as a process of knowledge sharing, integration, and the development of shared understanding. Co-design aspires to bridge the “abstract space” of professional design with insights from the “concrete space” of everyday life.

The shortcomings of co-design include power imbalances, lack of shared understanding, absence of dedicated processes, misaligned priorities, inconsistent motivation, and limited outcomes in terms of novelty and feasibility. Workshops are not always the most efficient or effective way to solve design problems.

Stylized Facts

Stylized facts (SFs) are widely used as simplified representations of complex phenomena to support model building. They “focus on broad tendencies, ignoring individual details, and proceed from assumptions that explain these stylized facts, without making claims about their historical accuracy or completeness.” Simply put, stylized facts are empirical patterns that call for explanation. In this study, based on extended periods of observation, participation, planning, and occasional facilitation, we identify and summarize three broad empirical phenomena in co-design as stylized facts.

SF#1 Ephemeral Engagement

Co-design workshops are typically presented in a creative and informal format, relying on a range of playful, game-like tools and methods. On the surface, they aim to make design work more accessible and engaging for non-professionals. However, these workshops are often brief interactions—lasting only a few hours or, at most, a day or two—and are sometimes perceived as token gestures meant to appease clients or stakeholders. Despite their gamified nature, such interactions can lead to disappointment, skepticism, and even clear frustration, occasionally resulting in a sense of distrust.

Indeed, voices are heard, connections are made, and initial ideas often emerge—but without a sense of ownership or clear next steps, these efforts tend to fizzle out. Encouraging participants to return for multiple sessions proves even more challenging.

SF#2 Underwhelming Outputs

While exploring needs and visions is valuable in itself, co-design workshops are typically expected to produce concrete and original outcomes. However, truly innovative results remain rare. Studies have shown that hosting organizations seldom adopt the ideas generated—often viewed as impractical or irrelevant—or that poor facilitation fails to spark genuine innovation. As a result, workshop outputs are frequently seen as disappointing, unrealistic, or unmarketable, and tend to be as short-lived as the workshops themselves. Due to the lack of stable and consistent outcomes, co-design has increasingly become associated with upstream innovation activities—such as problem framing, ideation, and creative exploration—rather than with the development of concrete, applicable results. Some studies suggest that co-design may be better suited for exploration and dialogue than for producing tangible outputs, or as a negotiation space between conflicting visions.

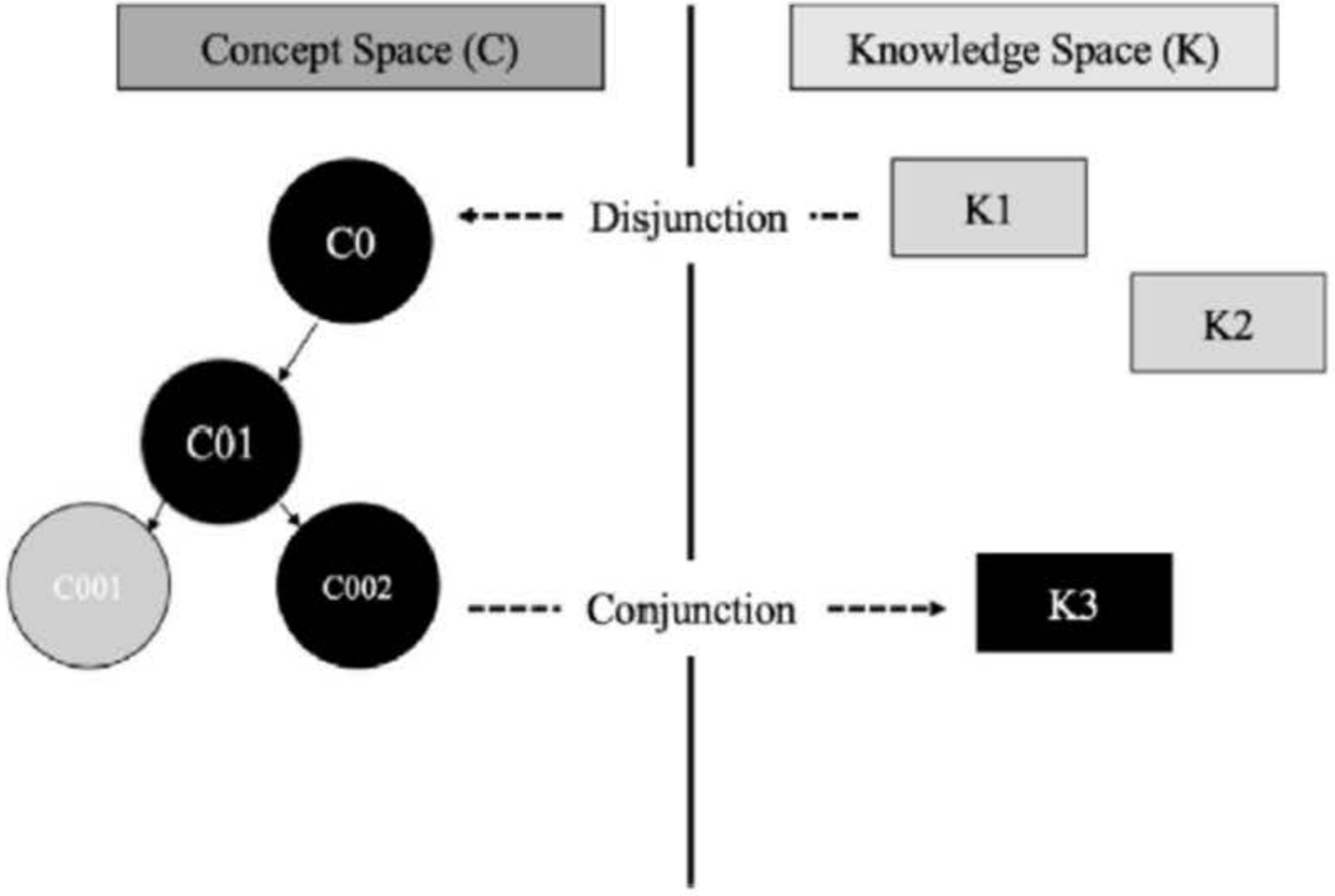
SF#3 Size Does Not Matter

Bringing together as many stakeholders as possible and building a diverse knowledge base seems to be a common premise of co-design workshops. However, involving participants who lack design skills or subject-matter expertise has long been recognized as a major limitation of co-design, as the overall knowledge level tends to be insufficient.
There is no evidence that larger groups or a higher number of experts lead to better co-design outcomes. Regardless of scale, workshops inevitably lose momentum over time—the only difference is how quickly it happens.

Modeling co-design’s knowledge dynamics

The study adopts C-K theory as a guiding framework, which is considered a reliable model of knowledge-based generative processes. It describes design reasoning by distinguishing between the Knowledge (K) being used and the emerging Concepts (C), as well as the interactions between the two. The K-space consists of logically decidable propositions that can be judged as true or false based on existing knowledge, while the C-space contains propositions whose truth value cannot be determined from current knowledge, thereby stimulating the motivation for design.

C-K Theory



C0- initial concept

K to C- Disjunction

A concept that cannot yet be logically validated is created.

C to K- Conjunction

The concept has now become verifiable in the K space and can be judged as feasible or not feasible.

C to C

K to K

舉例(我舉的)

C

(C0)設計一種能幫助人改善睡眠品質的產品

(C1)裝置能根據使用者即時的心率變化，動態調整聲音或光線，可能會幫助改善睡眠

(做實驗驗證有效)

C to C — **Expansion**

(C1-1)是否可以根據睡眠週期，配合調整床墊角度或溫度?

Disjunction

Disjunction

Conjunction

K

現睡眠障礙是現代常見問題（K0）

白噪音可以幫助某些人入睡（K1）

人體深層睡眠與心率變異有關（K2）

可穿戴裝置可追蹤生理數據（K3）

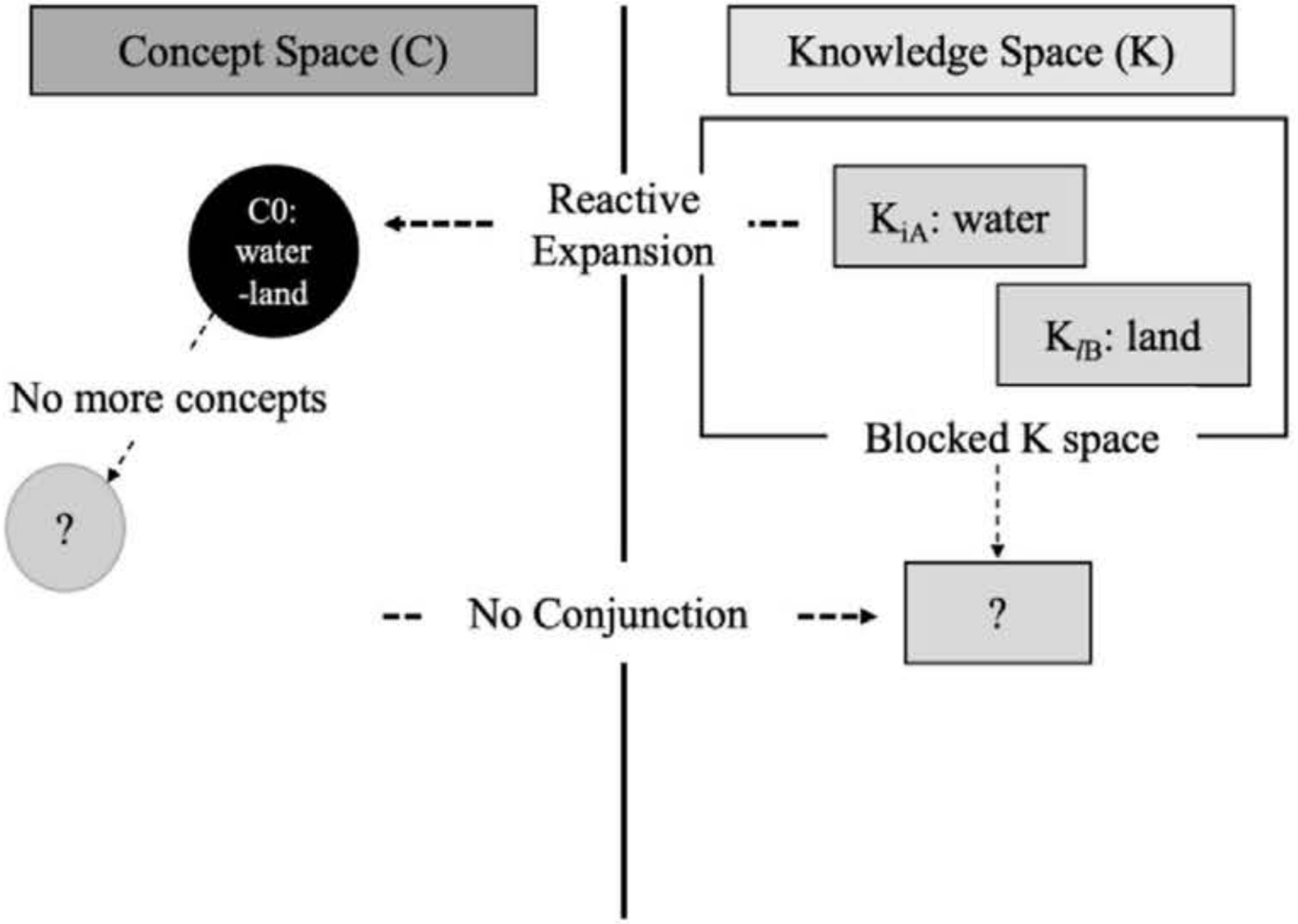
動態聲光調控裝置可有效提升多數使用者的睡眠品質(Kn)

Expansion — **K to K**

藍光比紅光更容易干擾睡眠(Kn+1)

每個人的聲音偏好差異極大(Kn+2)

Reactive Expansion Model



Ki ※KI=CiI

"reactive expansion"
Knowledge collides to create new concepts, but they cannot be verified

a = nKnP

Solution = number of independent knowledge * number of participants

Reactive Expansion Model

$$a = nKnP$$

Solution = number of independent knowledge * number of participants

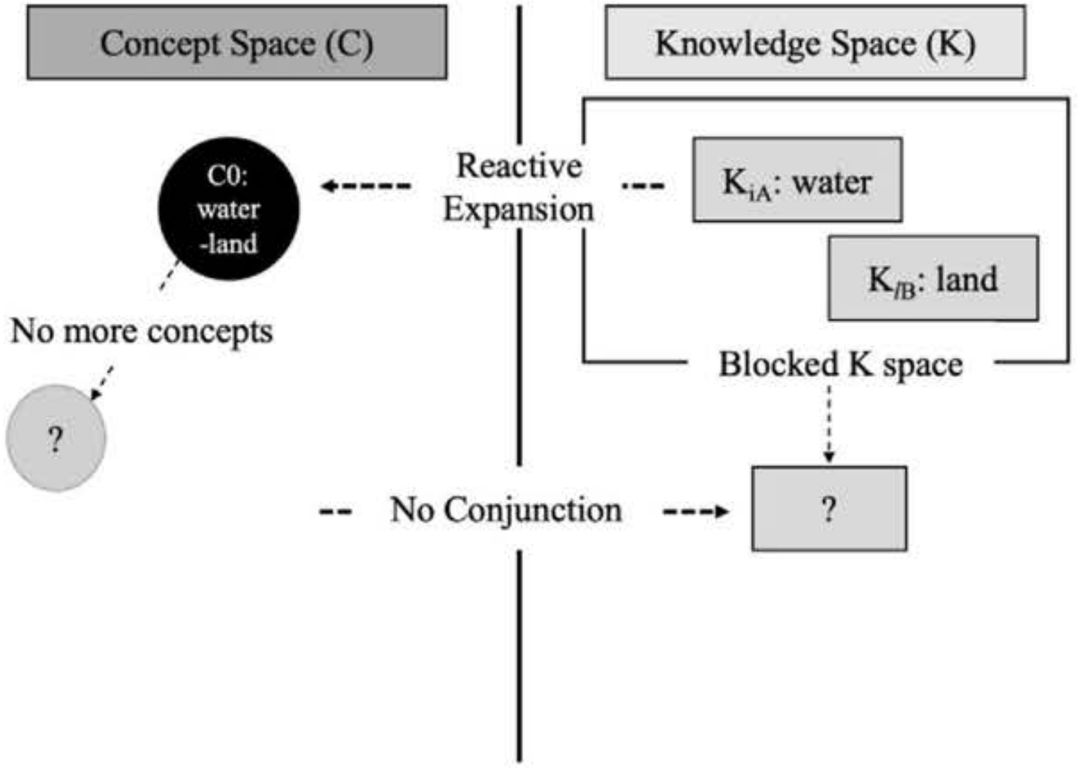
As time progresses, the number of established concepts increases, and under such conditions, the probability of discovering new concepts decreases. Sustained reactive expansion typically requires the inflow of new knowledge to compensate for the diminishing generation of novel concepts.

(SF#1) While the early stages of the process (when new ideas are easily generated) may be exciting, they will eventually become exhausting .

(SF#2)A closed K-space inherently limits discovery, surprise, and learning; even if each new concept introduces new knowledge for some participants, it still originates from the initial collective knowledge base and may not be considered innovative .

(SF#3) Finally, increasing the number of participants with independent K may delay exhaustion, but as long as the system remains closed, exhaustion is ultimately unavoidable .

The necessary conditions for reactive expansion.



Ki≠Kl

The participants' initial knowledge must be different.

Ki※Kl → Cil≠K

The participants' interactions must aim at seeking concept (disjunctions)

Ki and Kl must be independentl

The participants' knowledge must be mutually independent.

Ki and Kl must interact

The participants must be able to interact continuously

Discussion

This study distilled co-design into three main sources of disappointment and attempted to provide a basic framework for understanding interactions in co-design, further explaining the nature of the proposals that emerge from these interactions. At the same time, it highlights the capacity of C-K theory to reveal complex mechanisms and contributes to the literature on design-oriented social dynamics.

Reactive Expansion Model

- **Design novices** may initially find co-design exciting due to the novelty of disjunctions, offering high benefit at low cost. In contrast, **experts** often gain little new knowledge, leading to higher cost and lower benefit—explaining their ambivalence after repeated exposure to similar concepts.

- The model shows that reactive expansion has limits. The **first workshop brings the best results**, but repeating it with the same people gives fewer new ideas. Over time, the process feels repeated and less useful, so people may lose interest.

- **A closed K space blocks conjunctions** and limits concept development, leading to unoriginal and uncertain proposals. Without learning or new knowledge input, co-design can only produce vague, early-stage ideas.

Co-design often emphasizes “bringing people together” at the start, but the process of adding knowledge afterward is just as important. These observations suggest new ways to improve co-design, but also reveal that some seemingly quick fixes—such as **expanding the initial knowledge base, increasing the number of participants, or building initial trust**—might actually backfire. Let’s analyze these three options:

Expanding the initial knowledge base

The model suggests that a large initial knowledge base might delay knowledge exhaustion or compensate for lacking new knowledge (SF#3). However, this also creates challenges for strangers to collaborate (Burkett, 2012). Without solving the issue of impossible conjunctions first, simply adding more people only adds complexity with little benefit.

Increasing the number of participants

New knowledge needed to sustain reactive expansion must be different and independent. If new knowledge is repetitive or can be deduced from existing knowledge, conjunctions cannot occur. Thus, adding participants with overlapping knowledge has little value. Similarly, workshop briefings that give everyone the same knowledge create overlap, limiting knowledge growth and hindering conjunctions.

Building initial trust

Trust-building knowledge sharing should be conceptual, not just general talk. Studies show trust isn’t always needed for innovation and may instead result from design interactions.

Implications, limitations and future research

This model offers practical insights for improving co-design. It suggests that facilitators should encourage deep, conceptual interactions and help participants learn new knowledge and combine existing ones to keep them engaged. New knowledge should be added at different stages to stay relevant. Workshops can be split into sessions—first for idea generation, then for building and mapping knowledge. Participants should identify knowledge gaps early and be supported in learning before fatigue or repetition sets in. Experts should be involved, but only after participants start generating ideas, so the right ones can be invited.

The model also highlights the need for long-term planning. Reactive expansion (early idea generation) is helpful but not enough on its own. Without a plan for deeper knowledge work, outcomes may be shallow or disappointing. Co-design helps people combine their knowledge to explore new ideas together, but this process needs to be supported over time and adapted to participants' progress and needs, even if that means having more sessions.

The study has limitations. The model is simplified and may not reflect all types of co-design or cultural contexts. Future research could expand the model, test its application in different settings, and explore better facilitation methods. Learning from other short-term collaborations like project-based work may also improve co-design practices.

Conclusion

This study set out to explain some common shortcomings in co-design workshops. The simplified model we proposed helps clarify the core dynamics, the conditions under which they operate, and their inherent limitations. Specifically, it shows that co-design interactions function like a closed system, and regardless of how many participants are involved, they often lead to a sense of fatigue over time.

However, we believe that co-design still holds strong potential for innovation—especially when workshops are geared toward learning and knowledge (K) expansion. The model helps identify key variables and how they interact, offering practical guidance for workshop facilitation. By enabling meaningful knowledge expansion, co-design can avoid perceived exhaustion, move beyond superficial conversations, and become more than just a formal step in multi-stakeholder projects.

Opening up the system to allow for conjunctions—without overwhelming participants or diluting their expertise—is a delicate task. Therefore, we argue for more flexible and responsive facilitation. We hope that this model can support practitioners in steering co-design dynamics toward genuinely novel outcomes.

評論

協同設計是近年來很興盛的議題，然而他也存在許多為人詬病的狀況這篇文獻通過觀察將這些問題總結成了三個簡明的事實，能夠幫助這個設計方法的使用者更了解運行的框架。後續運用概念/知識模型解釋整個框架的運作模式，並且通過反應擴張模型很好的解釋了造成缺點的原因。文獻也提出了一些解決方案參考，這篇文獻很完整的囊括了整個協同設計的優缺點，雖然模型的理解較為費力，但卻將複雜的過程很好的概述。但由於模型將整個流程極大的簡化，可能還有很多缺點或是狀況無法被納入但總體而言是對協同設計相當有參考性的文獻。