ULTRA

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Explicitly Tacit: Polanyi's "Tacit Knowledge" in the Architectural Theory of Charney and Rowe

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Abstract

The scientist and philosopher Michael Polanyi coined the term "tacit knowledge" in 1958 to describe a type of unconscious, embodied and social knowledge that could not be explicitly taught through rules or rote-learning. He argued, instead, that some knowledge relied on practice, critique, socialisation and personal biography. In this sense, something like tacit knowledge has long played an important role in architectural education — where skill is acquired through (re)drawing, writing and model-making, reviewed by teachers and peers — even before Polanyi named it. Yet, for all the affinities between design education and tacit knowledge, Polanyi's epistemology has rarely been directly addressed in architectural theory. This paper considers two exceptions in the writing and pedagogy of Melvin Charney and Colin Rowe in the 1970s. Both figures used Polanyi's philosophy to propose alternatives to the "ultra" positions of Modernism. Charney argued that Quebecois vernacular architecture reflected a tacit, collective building culture that was inseparable from the embodied construction practices of craftspeople. This could not be made explicit in construction manuals or histories; students had to discover it through drawing and building themselves. Meanwhile, Rowe credited Polanyi's *Beyond Nihilism* (1960) in the gestation of *Collage City* (1978, with Fred Koetter). Polanyi's essay argued that individual freedom was important in making new discoveries, but that individuals still had a responsibility to go beyond themselves by conforming to collective norms and standards. This, too, found a parallel in Rowe and Koetter's rejection of Modernist utopianism. At the same time, a close reading of these minor encounters reveals certain continuities and misalignments between Rowe and Charney's interpretation and Polanyi's own position as a prominent anti-Communist and contributor to early neoliberalism. Ultimately, this paper aims to clarify the role of tacit knowledge in the theory of these two architect/educators and, in doing so, simultaneously clarify the relationship between tacit knowledge and architectural pedagogy more broadly.

There is relatively little writing on the notion of "tacit knowledge" in architecture. The term was coined by the Hungarian scientist-turned-philosopher Michael Polanyi to describe the way "*we can know more than we can tell*".[1] Drawn, in part, from British philosopher Gilbert Ryle's earlier conception of "knowing-how," tacit knowledge referred to a kind of knowledge that was difficult to explain to other: that resided—often subconsciously—in bodily actions and cultural norms, as opposed to "knowing-that" which could be taught through rules and rote-learning.[2]

This dearth of writing on the tacit dimension of architecture—from practitioners, historians and theorists alike—is surprising for at least two reasons. First, because architecture is out of step with a growing body of scholarship in other fields. One recent publication posited a "tacit knowledge turn" to rival previous interdisciplinary turns to language and performance, part of a wider reappraisal of the importance of practical, rather than theoretical, knowledge in a range of fields from sociology to management studies.[3] Second, because tacit knowledge seems to share a particular affinity with the way architecture has traditionally been taught and practiced, as the small body of architectural writing on the subject does attest. Claudia Mareis has written that tacit knowledge is particularly relevant in the area of "practice-led research," involving non-verbal and intuitive activities such as drawing.[4] Yet these are subject to a type of social and collective tacit knowledge, which Mareis likens to Bourdieu's concept of habitus: ingrained dispositions reflecting membership of a social group or class. Lara Schrijver, meanwhile, has suggested that architectural education had long grasped that something like tacit knowledge was embedded in the skills and practices of doing and making—in studio, where design is taught through supervised drawing, redrawing, model-making and discussion—long before Polanyi named it.[5]

This paper departs from this limited existing literature in architecture—which has applied Polanyi's theory from the outside to issues within the discipline—by instead exploring direct, if minor, references to Polanyi and tacit knowledge in the writing of two prominent architectural educators in the 1970s: Melvin Charney and Colin Rowe. In doing so, we can draw out the qualities of Polanyi's tacit knowledge theory which architectural educators have found relevant and productive: particularly the role of communities and embodiment, and the relationship between the collective and individuals. At the same time, these entanglements between tacit knowledge and architecture prompt us to remain critical of any operative, architectural application of this theory of scientific epistemology, with its own political implications. The aim in this paper, then, is not to offer a substantially new reading of the work of these two figures, both of which are the focus of extensive existing scholarship. Instead, it is to clarify their relationship to tacit knowledge and, in doing so, simultaneously clarify the relationship between tacit knowledge, architecture and education more broadly, from within the discipline itself.

Reading Polanyi

The first figure I consider here is the Canadian artist, architect and educator Melvin Charney, who grounded his influential defence of Quebec's vernacular architectural tradition, "Pour une Définition de

1. Michael Polanyi, *Personal Knowledge : Towards a Post-Critical Philosophy*, (London: Routledge, 1958). See also: Michael Polanyi, *The Tacit Dimension* (Chicago, Ill: The University of Chicago Press, 1966).

2. Gilbert Ryle, "Knowing How and Knowing That: The Presidential Address," *Proceedings of the Aristotelian Society* 46 (February 20, 1945): 1–16.

3. Frank Adloff, Katharina Gerund, and David Kaldewey, eds., *Revealing Tacit Knowledge : Embodiment and Explication* (Bielefeld: Transcript, 2015).

4. Claudia Mareis, "The Epistemology of the Unspoken: On the Concept of Tacit Knowledge in Contemporary Design Research," *Design Issues* 28, no. 2 (May 5, 2012): 61–71.

5. Philosopher and urban planning professor Donald Schön also referenced Polanyi in his closely observed study of reflexivity in the teacher-student dynamics of architectural design studios at MIT. Lara Schrijver, ed., *The Tacit Dimension : Architecture Knowledge and Scientific Research*. (Leuven: Leuven University Press, 2021); Donald A Schön, *Reflective Practitioner* (Taylor and Francis, 1983).

l'Architecture au Quebec" (1971), partly in Polanyi's tacit knowledge. This connection provides a particularly rich source for understanding the relationship and application of tacit knowledge in architecture. In the first part of this essay, Charney argued that the piecemeal vernacular typical of the region—what one contemporaneous publication criticised by the author called "a hideous assemblage of structures that belong to no conceivable architectural tradition whatever"—could provide the basis for a new, endemic Modernism, furnishing an alternative to the white-cubes of the International Style, imported from elsewhere.[6] At the same time, he insisted these houses and simple commercial buildings not be analysed through the semiotics popular in architectural discourse at the time. It was not, in other words, the expression of the individual taste of the owner. Here, Charney seems to take an implicit swipe at the semiological studies conducted by Venturi and Scott Brown with students at Yale several years earlier, which framed the decorative choices of the residents of places such as Levittown as a radical manifestation of each family's identity.[7]

Instead, Charney argued that, while this tradition moved through individuals—such as artisans, labourers and master builders—the Quebecois were doing something different: people were expressing their relationship to a tacit and collective building culture. This culture preserved a certain knowledge of appropriate spatial organisation and how materials fit together, irrespective of whether the materials selected were the traditional stone and wood or whatever other resources were available, such as inexpensive corrugated roofing and bitumen panels. Polanyi's text provided the crucial insight that the "innate sense" that perpetuated this building culture was inseparable from the practices of construction and craft—passed on from one generation to the next through example and supervised repetition—in a way that could not be made entirely explicit in construction manuals or the sorts of books on Quebecois architecture that were the subject of Charney's critique.[8] In this sense, these vernacular buildings were related to each other, not through a regressive move towards historical purism, but instead by freely incorporating contemporary, eclectic materials into known models—whether housing or urban, multi-story construction—through an application of embodied tacit knowledge.

Charney never references the specific parts of Polanyi's tacit knowledge that he draws from, but there are clear hints in the essay itself. In *Personal Knowledge* (1958), Polanyi devotes a section to traditionalism, arguing that "the principle of all traditionalism [is] that practical wisdom is more truly embodied in action than expressed in rules of action."[9] As Charney also recognised, craft of this sort is a living tradition, passed on from masters to apprentices. For this reason, Louis Martin—a prominent scholar of the architect's work—compares this "innate sense" to Rossi's collective memory in that, despite approaching the issue from distinct perspectives, both architects "saw in popular architecture a repository of experience, a reified memory of the heroic struggle for a place realized by people increasingly deprived of their legitimate means of cultural expression".[10]

It is important to remember, however, that Polanyi's tacit knowledge was tangible and embodied, relating individual actions to the collective. Understood in this way, the essay reveals a more complex reading of

6. Here Charney quotes from the 1966 book *Building Canada: An Architectural History of Canadian Life* by the art historian Alan Gowans. Melvin Charney, "Towards a Definition of Architecture in Quebec," in *On Architecture: Melvin Charney, a critical anthology*, trans. and ed. Louis Martin, (Montreal & Kingston: McGill-Queen's University Press, 2013), 247.

7. See: Beatriz Colomina, "Learning from Levittown: A Conversation with Robert Venturi and Denise Scott Brown," in *Worlds Away, New Suburban Landscapes*, ed. Andrew Blauvelt (Minneapolis: Walker Art Center, 2008), 49–69.

8. Charney writes "It is interesting to note the analogous theme studied by Michael Polanyi, which supports in large measure the success of the later work about the idea of 'tacit knowledge' which is required in practice and cannot be expressed otherwise." Charney, "Towards a Definition of Architecture in Quebec," 264.

9. Polanyi, *Personal Knowledge*, 56.

10. Elsewhere in the same essay, Martin also emphasises the role of tacit knowledge in Charney's thought. Louis Martin, "Thinking Architecture, Its Theory and History," in *The Figure of Knowledge: Conditioning Architectural Theory, 1960s - 1990s*, ed. Sebastiaan Loosen, Rajesh Heynickx, and Hilde Heynen (Leuven University Press, 2020), 161–80. See also, Louis Martin, "Building Myths, or How to Preserve the Social Content of Architecture," *Future Anterior: Journal of Historic Preservation, History, Theory, and Criticism* 11, no. 2 (June 22, 2014): 65–75.

Polanyi, recognising that it was just as important for craftspeople to pass on a personal, tacit knowledge of materials. In one crucial passage, Charney writes that:

> The aesthetic significance of the exterior cladding merits a detailed semantic analysis: a 3/8" [10 mm] thickness of bitumen imitates a 2" [50 mm] thickness of concrete "stone" which in turn imitates a natural stone cladding typically used in single-family homes in the American midwest.[11]

11. Charney, "Towards a Definition of Architecture in Quebec," 249.

Here we can recognise an embodied understanding of particular materials and how they fit together—eschewing an explicit, and proprietary, set of details typical of product information sheets—producing innovations within an evolving tradition through the sensation of handling those new materials themselves. That Charney specifies a precise thickness here hardly seems accidental, indicating a tacit understanding of what can be replaced with what, and how these new materials relate as part of an existing construction system. Polanyi places the individual's body at the heart of such innovations, with a tangible feel for these differences of dimension and materiality: "Every time we make sense of the world, we rely on our tacit knowledge of impacts made by the world on our body and the complex responses of our body to these impacts."[12]

12. In the later essay, "The Logic of Tacit Inference," Polanyi acknowledges his obvious debt to phenomenology and, like Ryle before him, insists that an essential unity between mind and body is the only way to avoid Cartesian dualism. Michael Polanyi, "The Logic of Tacit Inference," *Philosophy* 41, no. 155 (July 11, 1966): 10.

Still, Charney is right to insist on an "innate response" within the framework of tacit knowledge. Polanyi was consistent in arguing that these collective traditions can be intimate, connected to a person's training and biography, even childhood socialisation, in a way that might be common across a community: "we hold with universal intent a set of convictions acquired by our particular upbringing."[13] Indeed, these convictions—for Charney's Quebecois, how a house should go together and how it should be organised—become suppositions that we perceive to be so natural that we have trouble identifying them as suppositions in the first place.[14] In other words, they become automatic and tacit.

13. Polanyi, *Personal Knowledge*, 216.

14. "The curious thing is that we have no clear knowledge of what our presuppositions are and when we try to formulate them they appear quite unconvincing." Polanyi, *Personal Knowledge*, 62.

Where Charney seems to have drawn primarily from *Personal Knowledge*, Colin Rowe and Fred Koetter turned elsewhere in Polanyi's oeuvre for their seminal book, *Collage City* (1978). Rowe acknowledged many sources for their thinking, including a range of philosophers (Popper most prominently, but also Shklar), anthropologists (Lévi-Strauss), scientists (Medawar) and historians (Cohn), but among them was also Polanyi's essay Beyond Nihilism (1960).[15] In this text, Polanyi applied his thinking on personal, tacit knowledge to what he saw as the nihilism of the twentieth century. Polanyi opposed, on one hand, centralised, Soviet science—subjugating individual scientific discovery to official, a priori doctrines—and, on the other, the radical individualism and subjectivity of French existentialism. Both, in his reading, rejected the values and authority of morality and science as mere class interests. Instead, Polanyi pursued a middle line between the freedom of an individual's tacit and embodied subjectivity and that individual's responsibility to go beyond themselves by conforming to certain civic values: collective institutions, but also tacit norms and standards.[16]

15. Rowe identified these sources in a letter to Hays in May 1996. See: K Michael Hays, *Architecture Theory since 1968* (Cambridge, Ma.: MIT Press, 2000), 90. Ockman also makes the connection between Rowe and Polanyi in a footnote, although does not elaborate: Joan Ockman, "Form without Utopia: Contextualizing Colin Rowe," *Journal of the Society of Architectural Historians* 57, no. 4 (April 8, 1998): 448–56.

16. For an overview of this essay and its relationship to his wider thought, see Grene's introduction in: Michael. Polanyi and Marjorie Grene, *Knowing and Being* (Chicago: Chicago University Press, 1969).

Rowe like many others of his generation, had come to regard architectural modernism as another aesthetic style, rather than a

wholesale societal restructuring, as it had been conceived. Ockman writes that Rowe, too, "eventually negotiated—for better or worse—a way beyond nihilism".[17] It is in this context that Rowe and Koetter advocate a compromise very similar to Polanyi's individual/collective relationship, calling for balance in the "necessary conflicts of democracy with law".[18] This was a compromise between top-down, bureaucratic and Modernist "scientific idealism" and the type of "populist empiricism" that called for architects to accept what "the people", already professed to like: between "the highly uncertain roles of custom and innovation, of stability and dynamism."[19] In this sense, they departed from Charney's more unequivocal embrace of tradition and the tacit knowledge of everyday building practices. They argued, instead, that architecture should temper this personal, tacit knowledge—connected to shared, popular sensibilities—with technological expertise and the controls of law and justice, mandating certain standards irrespective of the desires and knowledge of the individual. In the polemics of Collage City, this manifested as stylistic freedom and choice within the confines of an overall urban composition—often explicitly within a grid—grounded in the logics and balance of collage.

17. Ockman, "Form without Utopia," 452.

18. Colin Rowe and Fred Koetter, *Collage City* (Cambridge: MIT Press, 1978), 97.

19. Ibid., 121.

A Tacit Pedagogy

Charney and Rowe's respective interpretations and applications of tacit knowledge became evident in their teaching. For Charney, this occurred as part of the *Unité d'architecture urbaine* (UAU) design studio at the University of Montreal. Rowe, meanwhile, taught his collage approach to urbanism in a recurring studio at Cornell. His Urban Design Studio often combined a careful reading of context, respect for popular sensibilities and a healthy appetite for modernist formalism, while still maintaining that a difference existed between architecture and building.[20] Here we can recognise the sort of high/low culture opposition which Baird read at the core of Rowe's lifelong project,[21] and which again separates Rowe's approach from Charney's theoretical agenda. Whereas Charney insisted that architecture should learn the tacit lessons of vernacular buildings, implying a continuity and essential reciprocity between the two, Rowe and Koetter wrote that "architecture is a discriminatory concept which can, but need not, enjoy a lively commerce with its vernacular".[22]

20. This building/architecture distinction was made in Rowe's Cubitt lecture of 1979, published in: Colin Rowe, "The Present Urban Predicament", *The Cornell Journal of Architecture* 1 (1981), 16-33. For a useful overview of Rowe's teaching, see Michael Jasper, "From Composite Building to Partial Figure: Variations in the Teaching of Colin Rowe and Peter Eisenman," *Cahiers de La Recherche Architecturale, Urbaine et Paysagère*, no. 4 (June 28, 2019).

21. George Baird, "Oppositions in the Thought of Colin Rowe," *Assemblage*, no. 33 (June 22, 1997): 22–35.

22. Rowe and Koetter, *Collage City*, 101.

This notion of architecture as "discriminatory" is important in relation to tacit knowledge. They note that "there can be no simple formula implicating bicycle sheds and Lincoln Cathedral"—we cannot generate a set of rules to categorise something as building or architecture in every case—suggesting that this distinction relies on an established disciplinary distinction and on the sensibilities of individuals to distinguish the two.[23] There is something similar at play in the collage method that Rowe taught his students: "an approach in which objects are conscripted or seduced from out of their context…the provenance of the architectural objects introduced into the social collage need not be of great consequence. It relates to taste and conviction."[24]

Again, this "taste and conviction" signifies a sensibility that could not be made explicit through a set of rules, but which was, instead, learnt through the studio itself. Elsewhere, Rowe quotes Whitehead to describe his aim in studio education as the transmission of a style or

23. Ibid.

24. Ibid., 145.

an aesthetic sense: the product of training and expertise that could not be transferred to outsiders or amateurs.[25] As teaching assistant Steven Hurtt wrote, after the publication of *Collage City* students in Rowe's studio engaged in this training through a constant process of observation and selection. First, this was directed towards critiquing the work of students in previous studios, and then towards the fragments combined and collisions produced in their own work, all the while guided and corrected by Rowe's overarching attitudes as a critic.[26] Although there is no evidence that Rowe drew on any of Polanyi's writing aside from *Beyond Nihilism*, this strikes a chord with Polanyi's discussion of "connoisseurship" in *Personal Knowledge*: "Connoisseurship, like skill, can be communicated only by example, not by precept…[and] rely on the transmission…from master to apprentice."[27] In this sense, Rowe's approach taught students to recognise good examples from bad, not through a *priori* and explicit rules, but rather through a sensibility learnt over time through the practices of making and judging. Ultimately this engendered the ability to make these discernments, for students to express their "style," even without Rowe's guidance.

Charney's teaching, in contrast, placed greater emphasis on the social and embodied dimensions of tacit knowledge. First, in social terms, Charney taught that buildings and cities carry evidence of their own tacit knowledge through both material and social construction. It is not only that architectural histories have neglected this everyday knowledge of cities—as Charney shows in the case of Quebec, this neglect was at least partly deliberate—but that the complexity of these relationships means they could never be made entirely explicit in treatises anyway; a tacit understanding must always be developed by individual architects or students. Indeed, as Charney's colleague in the studio Irena Latek writes, this approach was fundamentally social: "attentive to and in solidarity with the tacit knowledge of the people to produce their own living environment."[28] In this way, Charney's project was part of a wider movement within the field of architecture to reclaim the everyday building practices excluded from the discipline, especially where these people would struggle to make explicit the appeal of their houses in a way that would satisfy the architectural establishment. This included, despite their theoretical differences, Venturi and Scott Brown's interest in suburbia, but also Rudofsky, on whose work Charney had written an earlier essay with strong parallels to the later "Towards a Definition".[29]

Second, Charney's approach shows that drawing and other design tools are integral for grasping this constructed tacit knowledge. Charney taught a highly specific process of drawing, capturing what critic and former dean of the school Georges Adamczyk described as "specific formal traits; the consistencies, traces, signs, discontinuities, recurrent orders, etc. whose meanings can be related to their context and the collective memory."[30] This, too, finds its equivalence in Polanyi's thought. Gestalt psychology was fundamental to his theory of tacit knowledge, particularly the way that we must attend from particulars to their meaning; *from* a subsidiary awareness of the proximal term, or the parts/"clues", to a focal awareness of the distal term, or the whole. This, according to Polanyi, involved a process of "integration, merging the subsidiary into the focal".[31]

In this sense, the "formal traits" of these drawings constitute the

25. Colin Rowe, "On Architectural Education," *ANY: Architecture New York*, no. 7/8 (July 19, 1994): 48–51.

26. Steven Hurtt, "Conjectures on Urban Form," *The Cornell Journal of Architecture* 2 (1982), 54-78.

27. Polanyi, *Personal Knowledge*, 56–57.

28. Adamczyk describes the studio's method as an "architectural reading of the urban forms and their meaning in a culture…a know-how deposited in the city itself." It is telling here that he uses Ryle's term, "know-how," reinforcing the connection to tacit knowledge. Irena Latek, "L'architecture Comme Potentiel Humain: Réflexions Sur La Lecture De Montréal Par Melvin Charney," in *ARQ Architecture-Québec* 163 (May, 2013) 5-7; Georges Adamczyk, "The city as a school," in *Ville métaphore projet: architecture urbaine à Montréal, 1980 – 1990,* ed. Irena Latek et. al. (Montreal: Éditions du Méridien, 1992), 11.

29. Melvin Charney, "Architecture sans architectes: Les trulli de l'Apulie," *Rayonnement de l'Italie* 38 (1965), 54-57.

30. Adamczyk, "The city as a school," 2. See also, Jason Gilliland and Pierre Gauthier, "The Study of Urban Form in Canada," *Urban Morphology* 10, no. 1 (2006).

31. Polanyi, "The Logic of Tacit Inference," 3.

32. Polanyi, *The Tacit Dimension*, 61.

particulars that are integrated into an overall feeling for the city in a way that cannot be made explicit. Crucially, Polanyi suggests that tools or probes—such as pens or computer—extend our body, providing different kinds of haptic feedback and producing drawings that are, in turn, interpreted through our vision, experience and memory, all of which together provide the clues which we synthesise into overall insights of something beyond ourselves: in this case, the city. This requires practice. Charney's students, like those of Rowe, would have to trust his authority, that this drawing style, as Polanyi argues, "which appears meaningless to start with has in fact a meaning which can be discovered".[32] But it is also a reminder that tacit knowledge seeks to explain processes that are fairly standard in architectural education. It would seem obvious to many designers that we discover something about the world in sketching, and something else again in a more considered drawing, that we did not know before.

Misalignment, Misreading, Misunderstanding

33. Martin and Latek both emphasise this influence, while Charney acknowledges his connection to Foucault in: Melvin Charney, "Confrontations in Urban Architecture," in *Ville, métaphore, projet: Architecture urbaine à Montréal*, 1980-1990, ed. Irena Latek (Montreal: Éditions du Méridien, 1992), 99-103; Martin, "Thinking Architecture, Its Theory and History:"; Latek, "L'architecture Comme Potentiel Humain."

34. Polanyi, *The Tacit Dimension*, 63–66.

It is at this point that we start running up against the limitations of scientific tacit knowledge in its application in architectural theory. Charney's interest in tacit knowledge was connected to a political commitment to dismantling power structures within architecture, influenced by Foucault.[33] Indeed, as we have seen, he used tacit knowledge to help explain the embodied connection of people to vernacular architecture, and to understand buildings and the city outside existing, dominant systems of categorisation in the discipline. Yet, consistent with his argument in *Beyond Nihilism*, Polanyi comes to precisely the opposite conclusion, arguing that tacit knowledge in science required "traditional frameworks" which—through a system of mutual control and critique—established a common basis of knowledge that was substantially tacit. Indeed, the establishment, particularly scientific journals, had a responsibility to exert authority to reject "implausible claims" and even arbitrate which discoveries were "interesting to science".[34]

35. Ibid., 84.

Authority and power structures were, for Polanyi, integral to tacit knowledge and, by this logic, the architectural establishment would be correct in rejecting the vernacular. In this sense, Polanyi's thought aligns much more closely with the position of Rowe, who embraced the discipline's prerogative to determine the tacit boundary between buildings and architecture. Moreover, Polanyi readily acknowledged that the situation was different again in the arts, where "reliance on secondhand authority reaches less far…than in science, and divisions between rival opinions go deeper."[35] While scientific discoveries relied and built upon a body of common scientific knowledge as a matter of necessity, given that not all scientists could be experts in all areas, no such requirement exists in literature in the same way.

Looking to Rowe and Charney's relationship to Polanyi also prompts us to examine Polanyi's own position and biography. Although it is beyond the scope of this paper to explore his background in detail, in this light Polanyi's tacit knowledge was not necessarily neutral. He had served as Secretary to the Minister of Health in the Hungarian Democratic Republic, forced out when communists declared the Hungarian Soviet

Republic in 1919. He repeatedly returns to what he regards as the problems of Soviet science in his work, and in this context emphasises the necessity of personal freedom and intuition in research. This relationship between individual freedom and collective, tacit traditions informed Polanyi's role as one of the early proponents of neoliberalism and member of the Mont Pelerin Society, in a way that was inseparable from the theory of tacit knowledge itself. As Beddeleem writes, Polanyi's neoliberalism rested on a belief in the "superiority of the market to access these reservoirs of untapped knowledge, a tacit knowledge that could not be discovered by any other means than the independent initiative of the individual."[36] While some commentators have identified a similar neoliberal agenda in Rowe's anti-utopian anything-goes urbanism,[37] this certainly seems out of step with Charney's attempt to redefine disciplinary power structures.

36. Martin Beddeleem, "Michael Polanyi and Early Neoliberalism," *Tradition & Discovery: The Journal of the Polanyi Society* 45 (2019): 34.

37. See, in particular, Pier Vittorio Aureli, *Possibility of an Absolute Architecture* (Cambridge Mass.: MIT Press, 2014), 204.

At the same time, Polanyi's interest in the individual recognised that a person's body and biography played a greater role in scientific discovery than positivism had allowed. He noted, with another of his aphoristic phrases, that "Rules widely current may be plausible enough, but scientific enquiry often proceeds and triumphs by contradicting them."[38] Indeed, in so strongly emphasising more subjective, intuitive forms of knowing against the rigours of early-twentieth century positivism, some more recent commentators have accused Polanyi of sometimes going too far in making the tacit seem mysterious.[39] Understood in this context, it is easier to understand why Charney and Rowe both invoked Polanyi in establishing their own positions in relation to Modernism. There are clear parallels between the architecture of the first half of the twentieth-century and the dogmatic logics of positivism.

38. Polanyi, "The Logic of Tacit Inference," 1.

39. See: Harry Collins, *Tacit and Explicit Knowledge* (Chicago : University of Chicago Press, 2010), 148.

Ultimately, these invocations of Polanyi in the work of Charney and Rowe demonstrate that tacit knowledge is neither monolithic nor stable in architecture: that it does not always describe the same knowledge in different places, times or circumstances. Instead, it is deeply contextual. For Charney, working in Quebec, tacit knowledge was collective, fundamentally connected to embodiment and craft. For Rowe, trained in London and teaching in the USA, Polanyi's theories were political, helping navigating a way between populism and top-down control. Yet, in both cases, tacit knowledge played a key role in their design pedagogy: something inexplicable and irreducible to other forms of knowing. While each brought their own approach to teaching, it is important to recognise that it was still the practices and socialisation of the studio—an educational format that has so long been a part of architectural education in some form or another—that played the decisive role in passing on their particular conception of tacit knowledge.

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