

Special Issue: Hidden Gems in Media Studies**Hidden Gem: Archea (1977)**Ronald E. Rice^{1D}

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ABSTRACT

Archea (1977) is a hidden gem for several reasons. First, it is a thoughtful analysis of two important central concepts: exposure, and access. Second, these are manifested by the interaction between (built/physical) environment properties and attributes, and human properties and attributes, creating an information field with gradients and terminals. Third, exposure and access have a wide range of implications for human privacy behavior. Fourth, these have direct and metaphorical implications for online boundary and privacy issues. Fifth, thus Archea provides one foundation for studying communication privacy management issues. Lastly, yet it is infrequently cited, and very little by communication researchers.

KEYWORDS

Archea (1977), privacy, architectural factors, behavioral theories of privacy

Privacy—obtaining, protecting, invading, selling, restricting, losing it—has been a topic of debate by ancient Greeks, Enlightenment philosophers, and modern court cases. It has etymological roots in Latin words referring to distinctions between public and personal, but also to being robbed or deprived. Religions, cultures, and governments have varying, and changing, views on the relative control of privacy between individuals, groups, society, and government or the state, and the extent of individuals' rights to privacy. Many plots in literature turn on communication based on keeping information private or others obtaining that information, or characters revealing, distorting, or falsifying others' private information.

With the development, implementation, management, and use of electronic and digital telecommunication networks, telephone operators or party line users listening in on conversations, online and wireless services, mobile phones, social media, online data brokers, stolen data sold on the dark web, RFID tags, location-based services, GPS, the internet of things, call center monitoring, surveillance

cameras, spy satellites, drones, and electronic “bugs,” among many others, the realm of privacy has expanded from being inherent in bodily and physical entities located in space and time to include cyberspace and digital flows. While in some ways this context presents new forms of and raises new questions about privacy, in other ways many of the issues are the same, if we consider how various bodily and physical components take new, virtual, or metaphorical form in online settings.

Thus, I propose Archea’s (1977) article, “The place of architectural factors in behavioral theories of privacy,” as a hidden gem. This may seem an odd choice for a communication perspective, as it takes an architectural approach to understanding how location, orientation, and the built environment generate two primary processes: the ability to *access* information, and the *exposure* or monitoring of information. Consider, however, that another primarily architectural concern has been widely applied to critiquing and analyzing modern privacy issues: Jeremy Bentham’s (1791) design for a physical Panopticon prison so that every prisoner could conceivably be observed by a warden at any time, without the prisoner knowing when that occurs, thus generating self-imposed regulated behavior (Note that Bentham argued the warden would also be publicly observed to insure similar self-conforming adherence to social norms about treatment of prisoners). Such a design produces completely asymmetric potentials for access and exposure, for warden and prisoner. More recently, Allen’s classic work (1977) analyzed how physical location and materials affected R&D team performance; Brookes (1978) studied the effects of “office landscaping” on employee attitudes and work; and new media have provided opportunities for remote and virtual work, creating proximity paradoxes (Kolb, 2013) and boundary management issues (Rice, 2017). All of these developments had and have implications for employee privacy, whether at work, while

travelling, or at home.

Archea’s (1977) article is relevant to analyzing how new forms of communication shape privacy issues. He opens with emphasizing the centrality of privacy to interpersonal behavior. This proposition is of course mirrored in the influential privacy boundary management theory (Petronio, 2002). Though initially developed for, with much subsequent research applied to, the family context, it too has more recently been used to understand online privacy contexts such as information technology in general (Stanton, 2003), and social media in particular (e.g., De Wolf et al., 2014). Central tensions here are balancing self-disclosure, access, exposure, and boundary management. All stakeholders have different goals and purposes for engaging in different sides of those boundaries. The essential privacy paradox is that users want access to information resources and wish to personalize and have links to their content, but, due to the primary business model in online sites, they have to expose and provide (willingly or not, knowingly or not) information about themselves and their online behavior (Barth & De Jong, 2017). In the organizational setting, a similar tension is between the organization’s benefit from well-managed information through information and communication technologies and enterprise social media (Ellison et al., 2015; Van Zoonen et al., 2021).

However, as an architectural researcher, Archea (1977) focuses on the field of environmental psychology, which refers to individual and group attitudes toward and responses to different forms and design of the built world (and not the more common use of “environment” referring to the natural—though increasingly less so—world). This “built world” refers to workplaces (such physical boundaries and exit/entry points, walls, office and cubicle size), public spaces (lobbies, entryways, plazas), health venues, and classrooms. He briefly reviews prior conceptualizations of both privacy and the (built) environment, arguing those either confound the

environment with extensions of the self (such as clothing, territoriality, personal space), treat the environment as only existing when used, limit the environment to a set of locations or places, or subsume the built environment into a network of information flows.

Rather, Archea's (1977) approach is somewhat similar to the media attributes (Rice, 1987), the task-technology functional variable (Nass & Mason, 1990), or the affordance (Gibson, 1979; Norman, 1988) approaches, among others. As Rice et al. (2017) wrote, "For Gibson, affordances exist as an action possibility [in the environment] independent of an actor's perception and experiences; do not change when an actor's needs and goals change, but they are relative to each actor's perceptions and capabilities for action; exist or do not, without distinctions of degree or extent; and can be nested (comprising other action possibilities)" (p. 108). That is, Archea argues that underlying, general properties and attributes of physical environments, rather than specific built materials, and how they and human behavior relate, are the key to understanding issues such as privacy. Properties are more like the objective set of facilitations and constraints, always present, and intrinsic to the entity. Attributes are extrinsic characteristics of things or their classes that relate the things to other things, for particular purposes or functions; so, these are more socially constructed, conventions, and shaped by user intentions. Both properties and attributes shape the perceptions, forms, and implications of privacy.

Why privacy in particular? Because, Archea (1977) argues, people (and groups) exist within dynamic information fields relating to events and activities, shaping behavior. Thus, both accessing others' behavior (access), and others accessing one's own behavior (exposure) influence and regulate behavior. Therefore, the properties and attributes of a given built environment affect both access and exposure to this information field. Configurations that consistently enable or

constrain access and exposure (such as doors, cubicle walls, floorplans, watercoolers, bathrooms, cafeterias, classrooms, reception areas) gain behavioral significance. Environmental attributes channel, obstruct, regulate, amplifies, filter, and mediates available information. People may both benefit and suffer from, and strategically manage or helplessly submit to, one's positioning in a given build environment. However, attributes of the individuals also influence access and exposure to information and communication: relative locations, physical orientations, sensory capabilities (hearing, sight, smell, processing rates, short and long-term memory), verbal and nonverbal expression, physical and cognitive responsiveness, familiarity and routinization, prescribed and proscribed interpretations and accounts, and symbolic or normative meanings. Therefore, the built environment properties and attributes interact with human properties and attributes. For example, "The probability that a person's behavior will be accurately acknowledged by others is directly related to the manner in which that a person's location exposes his or her behavior to scrutiny from his or her physical surroundings" (p. 124).

Information availability may exist in *gradients*, such as increasing or decreasing access and exposure due to distances and sizes of material openings and edges (such as decreasing access to voices down a long hallway of offices, or greater difficulty in accessing social media posts buried in long threads). Archea (1977) further proposes that various *terminals*, or information search, retrieval, entry and exit points, also affect access and exposure; consider membership in an organizational team or in a Facebook group. These terminals shape what is available and to and among which individuals or groups. For example, print or online forms used in organizations or by government (i.e., tax forms; Esbester, 2011), both shape and limit possible interpretations and context, setting boundaries for what is considered private and public information. Or, consider the

implications of social media requiring genuine identification (Facebook) or providing only completely anonymous accounts (not even persistent pseudonyms; e.g., Whisper or 4Chan), and various designs in between (such as Reddit or Instagram).

These media properties and attributes, or affordances, affect not only access and exposure, but in particular the extent of privacy management. Thus, both access and exposure can co-exist, vary over time, and create tensions and contradictions, such as the privacy paradox or the challenge of managing one's own communication privacy boundaries.

Archea's (1977) focus on the implications for privacy of the interactions between the properties and attributes of the built environment and human behavior is centered around access and exposure. However, we can see how those correspond to the central media affordances in an organizational or an online context (Rice et al., 2017). Visibility applies to both access and exposure: the extent to which an organizational media environment provides one the ability to see/hear/access information or communication—whether outward from an individual or inward from others. Editability is not especially relevant, except to the extent that management of one's exposure through aspects of the environment could mask iterative and draft versions of information before it is released, posted, or communicated. Self-presentation can be strategically managed through location and environment, both visually and aurally, but perhaps also through aromas such as essential oil diffusers, perfume, or lunches microwaved in the office kitchen. One's online profiles, and online group membership, certainly signal aspects of self-presentation (such as symbols of eligibility/non-eligibility, or social categorization, two of Marx's (2001) seven types of online identity knowledge). Searchability can represent both access (one's ability to find other's content as well as how content from multiple others are associated), and

exposure (even one's very obscure content may be found through search engines, commercial brokers, and government databases). Awareness can apply both to access (how others become aware of your information, such as through recommender features or being a follower) and to exposure (how you can make your information more prevalent, such as through search engine optimization, or paid prioritization). Finally, pervasiveness is related to extent of access (how long others may be able to gain access to your information or how far back such access exist), and exposure (how many followers are there, how many cross-platforms or retweets are possible).

Beyond this very insightful yet parsimonious conceptualization of the environmental aspects of privacy behavior, another reason I recommend this as a hidden gem is because it has been infrequently cited, and very seldom by communication researchers. Again, this is largely due to its foundations in architectural design, but also because it was grounded in the material, offline world. However, its primary rationale is to explain how privacy choices, outcomes, and tensions manifest due to interactions between environment and humans. Now, let's consider how the article has been cited.

In addition to the 1977 journal article, it was included in an edited print and later e-book (Archea, 1999). As of April, 2024, the Web of Science shows 85 citations; 40 of those consisted of two or more citations by 13 authors, and thus once by 45 other articles. Given my acknowledgement of the Archea article as a hidden gem, it is not surprising that the most citations (7) were by me.

Words and co-occurrences of words in the titles of these 85 citations tell us somewhat about the focus of those citing articles. Figure 1 provides a word cloud of the titles (using <https://www.freewordcloudgenerator.com/>, allowing the maximum of 100 words, using words occurring at least 3 times and most of those occurring 2 times, and removing stop words and numbers).

interaction and territoriality in residential areas, (9) communication technology and proximity in organizations, and (11; 10 is not easily interpretable) effects associated with architectural design of personalized workspaces.

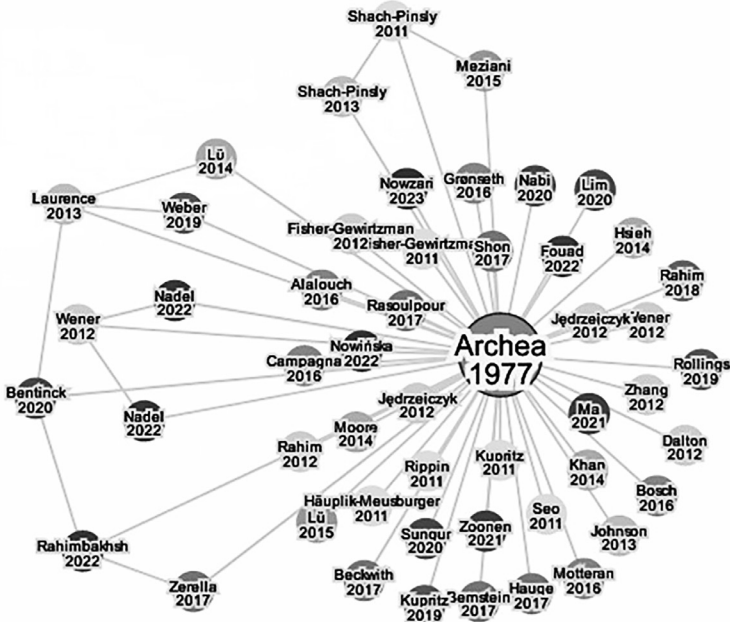
Looking at citation patterns, ResearchRabbit (<https://www.researchrabbit.ai/>) found 127 citing articles; Figure 2 shows 50 recent (the maximum provided by the program). The figure shows there are few networked citations among articles citing Archa (1977); that is the gem is mostly hidden and not shared among researchers. There are three sets of such interconnections. The first includes Bentinck et al. (2020, Perception of

privacy in a university building: The transparency paradox); Laurence et al. (2013; “My space”: A moderated mediation model of the effect of architectural and experienced privacy and workspace personalization on emotional exhaustion at work); Lu (2014; An investigation of workplace characteristics influencing knowledge worker’s sense of belonging and organizational outcomes); Rhimbkash et al. (2022; tradeoffs between public surveillance yet privacy for private units); and Weber (2019; privacy fit in open-plan offices: Its appraisal, associated outcomes & contextual factors). These are clearly about how the design of buildings

Table 1. Topics and Associated Words from Titles of Publications Citing Archa (1977), Based on 85 Web of Science Citations

Topic #	Eigen-value	% Variance	Words indicating topics, listed by decreasing loading within topic
1	4.4	4.0	internal, urban, system, layout, analysis, space, aspect
2	4.3	3.8	child, school, feature, psychological, exposure, model
3	4.0	3.6	socialization, traditional, market
4	3.7	3.3	comparative, evaluation, visual, integrate, approach
5	3.7	3.3	conceptualization, analyze, trend, access
6	3.5	3.1	stress, perceive, crowd, residential, moderator, house
7	3.2	2.9	ecological, perspective, life, framework, place, environmental
8	3.2	2.9	territoriality, component, residential, interaction, behavior
9	3.2	2.8	proximity, technology, organizational, communication
10	3.1	2.8	see, patient, moderator
11	3.0	2.7	workspace, effect, architectural, personalization
12	3.0	2.7	research, development, firm, characteristic, barrier
13	2.8	2.5	employee, reaction
14	2.7	2.4	job, type, privacy, enclosure
15	2.6	2.3	knowledge, share, matter
16	2.6	2.3	conceptual, framework, spatial, link, experience
17	2.6	2.3	public, computer, impact, place
18	2.5	2.2	live, architecture, interior, people
19	2.4	2.1	quality (four other words cross-loaded higher elsewhere: life, people, setting, aspect)
20	2.3	2.0	care, health, network
21	2.1	1.9	facilitate, seek, information
22	2.1	1.9	context, change, social
23	2.1	1.9	study, case, visibility
24	2.1	1.8	psychology, environmental
25	2.0	1.8	human, role

Figure 2. Fifty Recent Citations to *Archea* (1977)



and workspaces affects privacy and perceptions. The second includes Nadel (2022a; defining the mechanisms of design: An interdisciplinary approach); Nadel (2022b; challenges and solutions in establishing the impact of custodial design); and Wener (2012; The environmental psychology of prisons and jails: Creating humane spaces in secure settings) which refer to more general issues of built environmental design in a variety of settings. The third set includes Shach-Pinsly et al. (2011; Visual exposure and visual openness: An integrated approach and comparative evaluation); Shach-Pinsly (2013; From qualitative to quantitative: A conceptual frameworks for transforming qualitative aspects of environmental quality into quantitative terms for the benefit of the designers' work); and Meziani et al. (2015; Development of a simplified computerized tool to measure the visibility

of open spaces), which treats methodological approaches to understanding exposure and openness (access).

We can also gauge the content and research audience by considering the venues in which the citing articles or chapters occurred. Of the 85 citing venues, 5 were books. The remaining 80 consisted of 4 Proceedings, 75 journals, and 1 other. The journals with the most articles included: *Journal of Environmental Psychology*, 11; *Environment and Behavior*, 8; *Journal of Architectural and Planning Research*, 7; *Administrative Science Quarterly*, *Journal of Social Issues*, 3 each; and *Environment and Planning B-Planning & Design*, *Information Processing & Management*, *Journal of Applied Psychology*, and *Landscape and Urban Planning*, 2 each. None of these is an explicitly communication journal, though *ASQ*, *IP&M*, and *MIS*

Quarterly publish articles on information and communication technology. Of the remaining 42 journals with only one article each citing Archea (1977), they range widely, including *Ageing International*, *Building Research and Information*, *Housing Theory & Society*, *Journal of Asian Architecture and Building Engineering*, *Nomadic Peoples*, and *Social Science & Medicine*. Journals explicitly focusing on communication or ICTs include *Annual Review of Information Science and Technology*, *International Journal of Business Communication*, *International Journal of Communication*, and *Journal of Nonverbal Behavior*.

Here we can see why Archea's (1977) article, even though focusing on an architectural view of the built environment, can also be a core source for conceptualizations of privacy and privacy boundary management in particular and communication in general. In spite of its accessibility via a published article, it has enjoyed little exposure. Therefore, I recommend it as a hidden gem for communication and online privacy researchers.

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