sciendo
Article | DOI: 10.21307/connections-2019.054

CONNECTIONS
Issue 1 | Vol. 45 | 2025

Harrison White and Unpleasant Ebullience

Ronald Breiger*

*E-mail: breiger@arizona.edu

Abstract

I first met Harrison White in 1970, during my initial year of graduate study and his first year as chair of Harvard's newly-reconstituted Department of Sociology. I last visited with him on May 18, 2024, in Tucson, Arizona, the day before he passed away. Harrison has been my north star throughout my career. Our most intensive period in person together was the decade or so beginning in 1971, and that (along with some of Harrison's earlier career) is the timeframe on which I'll focus in these remarks.

Keywords

Harrison White, unpleasant ebullience, Harvard breakthrough

Harrison White was a leading theorist, mathematical modeler, and provocateur whose contributions revolutionized the methods and approaches taken to research in and beyond sociology. He rejected the established paradigms of mid-twentieth century sociology, whether theories of holism or individualism, or methodologies that reduced social structures to the statistical analysis of cross-cutting attributes and categories. His models of institutions and social networks catalyzed new ways of thinking about social structure as concrete, interconnected sets of actors in multiple and interpenetrating social networks beyond the level of individual persons, but below that of total cultures or societies, a breakthrough that earned him election to the U.S. National Academy of Sciences

I first met Harrison White in 1970, during my initial year of graduate study. I last visited with him on May 18, 2024, in Tucson, Arizona, the day before he passed away. Harrison has been my North Star throughout my career. Our most intensive professional period in person together was the decade or so beginning in 1971, and that (along with some of Harrison's earlier career) is the timeframe on which I will focus in these remarks.

Table 1 is a gloss of some (far from all) of the highlights of Harrison's professional life up through his time at Harvard. There are excellent book-length assessments of his professional life, ideas, contributions, and influence (including Azarian (2005) and Schmitt and Fuhse (2015)), a crucially important chapter (Freeman, 2004, ch. 8), excellent articles on his thought (Grossetti & Godart, 2007) and on social network analysis at Harvard in the 1970s (including Pachucki and Lewis (2017) and Raab (2023)), and an encyclopedia entry on Harrison's contributions to theory (Breiger, 2005).

In 1945, as a 15-year-old teenager, Harrison began his studies at the Massachusetts Institute of Technology, where he enrolled in a joint Bachelors/PhD program in theoretical physics. The principal advisor on his dissertation was John Clarke Slater, nominated multiple times for the Nobel Prize in Physics and Chemistry.[1] Just 10 years later, in 1955, Harrison received his PhD from MIT for a dissertation titled *A quantum-mechanical calculation of inter-atomic force constants in copper.*[2]

Three years before receiving his physics PhD, more or less by chance, as Harrison related it, he enrolled in Karl Deutsch's class at MIT on "Twentieth Century Ideas and Institutions." It was this class that

1 "John Clarke Slater." NobelPrize.org. (https://www.nobelprize.org/nomination/archive/show_people.php?id=8589).

2 Source for this: https://www.mathgenealogy.org/id.php?id=207290.

Table 1. Timeline.

Year	Age (years)	Event
1930		Born, Washington, DC
1945	15	Entered MIT
1955	25	**PhD (Theoretical Physics), MIT**
1955–56		Operations Research Office, Johns Hopkins
1956–57		Fellow, CASBS, Palo Alto
1957–59		Asst. Prof., GSIA, Carnegie Inst. of Technology
1959–63		Asst. Prof., Sociology, U of Chicago
1960	30	**PhD (Sociology), Princeton**
1963		Harvard (Assoc. Prof. 1963, Prof. 1968)
1963		**Anatomy of Kinship** published
1965		**Canvasses and Careers** (H. White, C. White)
1970		**Chains of Opportunity** published
1971		F. Lorrain, H.C. White, structural equivalence
1971		ASA Sorokin Award (distinguished publication)
1973		Guggenheim Fellow
1975	45	National Academy of Sciences, elected member
1975		American Academy of Arts and Sciences
1975		ASA Stouffer Methodology Award
1975–76		Blockmodels, first publications
1981		Markets, first publications
1986		Departed Harvard for Arizona
1988		Departed Arizona for Columbia

sparked Harrison's realization that he was really a sociologist. By age 30, in 1960, Harrison was awarded his second PhD, this one in Sociology from Princeton University, where he studied with sociologists Marion Levy and W.E. Moore and with the statistician Frederick Stephan.

As Harrison related it, part of his interest in Princeton was the short residence requirement in force at that time. He spent a number of his "graduate years" in Pittsburgh, as an Assistant Professor in the famed Graduate School of Industrial Administration (GSIA) of the Carnegie Institute of Technology (today Carnegie Mellon University), where Herbert Simon and James March held forth. A year before moving to Pittsburgh, Harrison was a member of the second or third cohort of Fellows of the newly created Center for Advanced Study in the Behavioral Sciences, a cohort that also included Harold Guetzkow and Herbert Simon.

Harrison's PhD in Sociology was a study of the 16 top managers of an industrial products company. Figure 1 is a page from this dissertation. There are several points to note that are relevant to innovations in Harrison's future career. This is a case study, and the study of an organization within a market. The dissertation was based on interview and observational work, as well as providing an early study of social networks. Although influenced by the older sociometric tradition of network studies, this dissertation was an early pioneer in the study of social relations across *multiple* networks, eight in all (including who each manager respected for their knowledge, and who they felt uncomfortable with). The study emphasized the multiple perspectives of social actors. ("For any phrases you recognize, could you give the name (or names) of the manager who characteristically used it? 'Blue sky research.' 'A Greek and a Roman trying to communicate with each other.' 'Romancing about it.'") The research focused on the conflict endemic to the upper management of this particular company. Also illustrated in Figure 1 is the immense attention paid to the external environment. There is a box labeled (in part) "Nine competitors," which prefigures some key features

of Harrison's market models, with producers eyeing producers.

Three years after receiving his PhD in Sociology for studying an American industrial products firm, Harrison published a *tour de force* sociological and mathematical study of the algebra of kinship among indigenous Australian peoples, White (1963). By now Harrison was a Sociology faculty member at the University of Chicago.

In 1963, Harrison moved from Chicago to Harvard, where he remained for the next 23 years, a period of tremendous productivity that was recognized throughout the discipline as the widely proclaimed "Harvard Revolution" (Freeman, 2004; Pachucki & Lewis, 2017; Raab, 2023).

In the 1960s (before my time), the excitement of Harrison's teaching and research (including *Canvasses and Careers*, coauthored with Cynthia White, White & White 1965, and leading up to *Chains of Opportunity*, White, 1970) in the company of several cohorts of exceptional graduate students, comes through in his undergraduate teaching notes, finally published four decades later (White, 2008; see also Santoro (2008) and Schwartz (2008)).

I arrived at Harvard as a beginning graduate student in 1970 at the age of 22. I selected Harvard for my graduate training because they didn't have a methodology requirement. Having been an undergrad Sociology major at Brandeis University, I knew quantitative methods were "evil." I had studied the history of sociological theory with Kurt Wolff, Lewis Coser, and others at Brandeis, and I wanted to continue that line. After a course with Harrison titled "Decoupling," I came to see *Harrison* as a classical social theorist,[3] and that was my main attraction, as I taught myself the APL computer language and some rudimentary mathematics, under the tutelage of virtuosi such as François Lorrain and Scott Boorman.

In 1975, when I received my PhD, we were in the middle of working out blockmodels. I turned down offers from a half-dozen leading departments in order to become a junior faculty member (as we were called and called ourselves) at Harvard, in the company of stellar junior faculty colleagues including John Padgett, Ann Swidler, Theda Skocpol, Rosemary C.R. Taylor, and others. I left Harvard in 1981 to become a Full Professor at Cornell. So my focus is on the decade of the 1970s at Harvard. As two of Harrison's former students, Joel Levine and Kathleen Carley,[4] have written, "Harrison assembled the most enjoyable, intellectually diverse, and most productive work group ... ever seen" (Levine & Carley, 1997). They go on to say that "the work was abetted by the simultaneous birth of cheap computing, by late nights, and by the central figure, Harrison." I would add that Harrison was the central figure because of his profoundly deep vision of a structuralist sociology, his brilliance, and—equally remarkable—his ability to excite imaginations while refraining from laying out any specific directions to his students and coworkers. For me personally, examples of this latter point include my "Duality of Persons and Groups" paper, written while I was a grad student (Breiger, 1974), my work on class structures and social mobility (Breiger, 1981), my current work on turning regression modeling inside out (Schoon et al., 2024), and just about everything in between.

The excitement around Harrison's research group was palpable, throughout the 1970s (just as, for earlier cohorts, in the 1960s). Scott Boorman and Mark Granovetter, and later John Padgett and I, were young faculty members. ("The Strength of Weak Ties" was published in Granovetter [1973]). François Lorrain, Phipps Arabie, Joel Levine, Philippa Pattison, and Barry Wellman were among those who often visited Cambridge and were central to many of the developments and conversations. I'm refraining from mentioning all the graduate students who were influenced by Harrison, several of whom (including Christopher Winship, Joseph Schwartz, Eric Leifer, James G. Ennis, Eri and Paul Bernard) worked directly on blockmodels and related network projects, because I'm certain that I will inadvertently omit some. A few stellar undergraduates (Lawrence Wu, Michael Mandel, Roberto Fernandez) contributed to the intellectual excitement. Along with a world-class programmer, Greg Heil, most of us wrote computer code in a now-defunct language, APL. Harrison wrangled the group about 32 KB of storage on an MIT computer, which we accessed via large terminals connected by acoustic couplers to phone lines. Harrison "worked ... late into the night in a computer terminal room at Harvard, surrounded by his cigarette smoke. Breiger, as one of his students at the time, witnessed this process up close ..." (Stegbauer, 2024, p. 59). I remember one particular weekend night in William James Hall when I was sitting at one of these terminals, working away, doing my own computations. Unannounced, Harrison slunk in and sat down at the adjacent terminal, overcoat still

3 "Classical" because of his focus on social structures and social relations, yet at the same time strikingly innovative.

4 These sociologists bracket the 1970s decade at Harvard. Joel was, I believe, Harrison's first graduate student at the University of Chicago. I often saw Joel, in Cambridge, Massachusetts, or in Hannover, New Hampshire, where Joel was on the Dartmouth faculty. Kathleen did her graduate work at Harvard from 1978 to 1984.

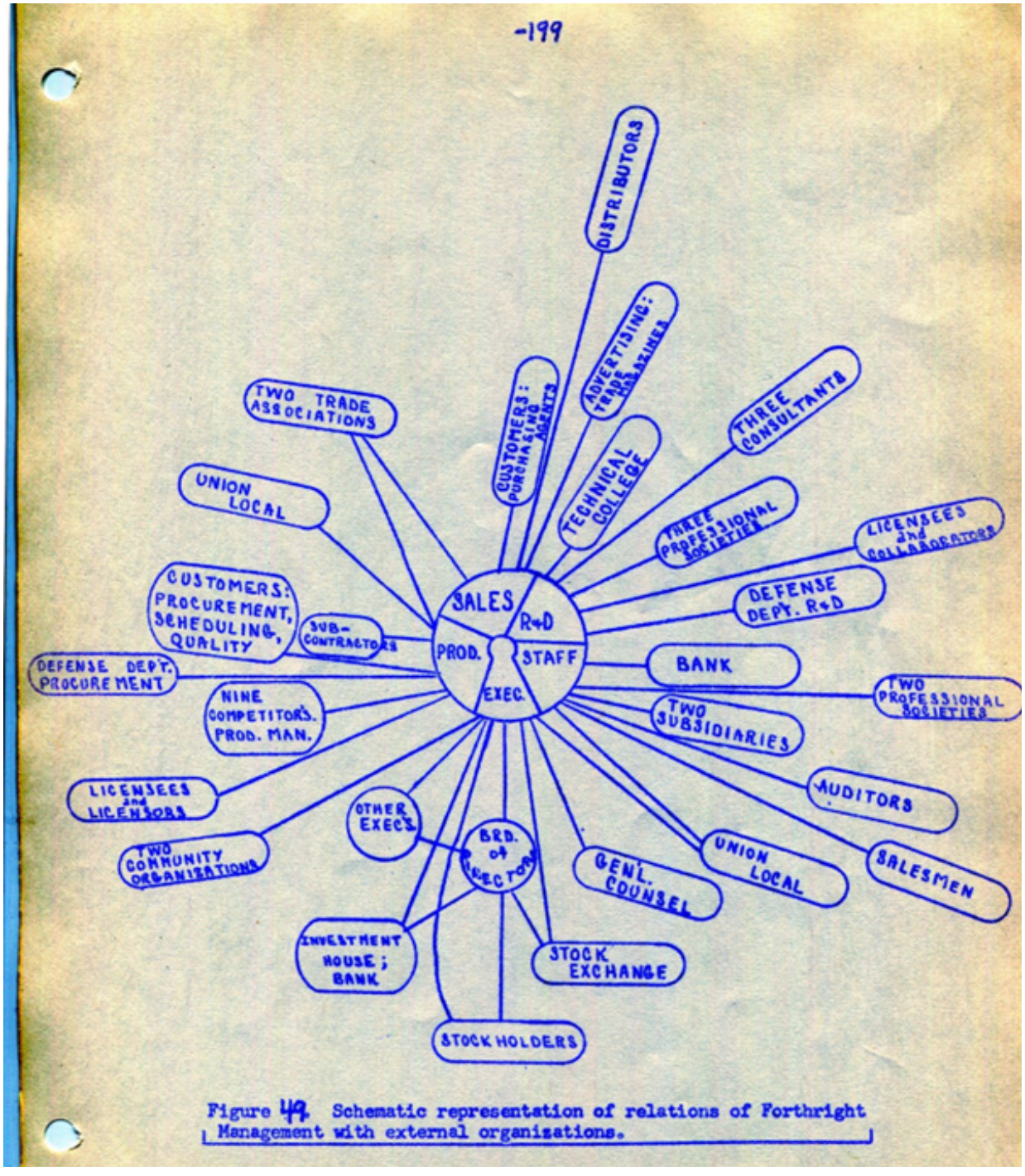

Figure 1: A page from Harrison's Sociology PhD dissertation.

on, to do his own computations. "I told my wife I was going out to buy milk," he said.

Harrison always had a deep mistrust of formalism for its own sake, an attitude that he sought to instill in his graduate students. "When you see an author importing big layers and tangles of technicalities, beware! Demand specification of payoff in phenomena, not in involutions of previous technicalities" (White, 1997). Not tangles of technicalities, but the ability to understand specific aspects of real phenomena, should be the payoff of research. And make no mistake about it, science is

about real discovery, not cosmetics of presentation. The danger of too much formalism for its own sake, or (similarly) of too much attention to grand theory at the expense of a concern for definite features of the real world, is that "the unpleasant ebullience of genuine discovery is replaced by the charm of scholarly ping-pong adapted from traditional Chinese literati" (White, 1980, p. 205).

The work of Harrison White has indisputably reoriented the fields of social network analysis and sociology in general, as well as numerous specific subfields (social stratification, economic sociology, culture, theory, and mathematical sociology prominently but not exhaustively among them). It is simply inconceivable to imagine social network analysis or sociology over the past 50 years without accounting for the advances contributed by Harrison White. As Emmanuel Lazega has said, he is our Copernicus and our Galileo, as he has invented both the vision and the tools. May his memory be a blessing.

References

Azarian, R. (2005). The general sociology of Harrison C. White: Chaos and order in networks. Palgrave Macmillan.

Breiger, R. L. (1974). The duality of persons and groups. *Social Forces, 53*(2), 181–190. https://doi.org/10.1093/sf/53.2.181

Breiger, R. L. (1981). The social class structure of occupational mobility. *American Journal of Sociology, 87*(3), 578–611. http://www.jstor.org/stable/2778935.

Breiger, R. L. (2005). White, Harrison. In G. Ritzer (Ed.), *Encyclopedia of social theory* (pp. 884–886). Sage.

Freeman, L. C. (2004). *The development of social network analysis: A study in the sociology of science*. Empirical Press. https://www.researchgate.net/publication/239228599_The_Development_of_Social_Network_Analysis

Granovetter, M. S. (1973). The strength of weak ties. *The American Journal of Sociology, 78*(6), 1360–1380. http://www.jstor.org/stable/2776392.

Grossetti, M., & Godart, F. (2007). Harrison White: des réseaux sociaux à une théorie structurale de l'action'. *SociologieS*. https://doi.org/10.4000/sociologies.233

Levine, J. H., & Carley, K. (1997, February 16–17). On with the revolution. In *Presentation given at "The White Tie Event," INSNA Sunbelt Conference*. San Diego.

Pachucki, M. C., & Lewis, K. (2017). 'Networks at Harvard University Sociology'. In R. Alhajj, & J. Rokne (Eds.), *Encyclopedia of social network analysis and mining* (pp. 1–9). Springer. https://doi.org/10.1007/978-1-4614-7163-9_73-1

Raab, J. (2023). Der "Harvard breakthrough". In C. Stegbauer, & R. Häußling (Eds.), *Handbuch Netzwerkforschung* (pp. 29–38). Springer VS. https://doi.org/10.1007/978-3-658-37507-2_3-1

Santoro, M. (2008). Framing notes. An introduction to "Catnets". *Sociologica,* (1). https://doi.org/10.2383/26574

Schmitt, M., & Fuhse, J. (2015). Zur Aktualität von Harrison White: Einführung in sein Werk. Springer VS.

Schoon, E. W., Melamed, D., & Breiger, R. L. (2024). *Regression inside out*. Cambridge University Press.

Schwartz, M. (2008). A postscript to "Catnets". *Sociologica, 2008*(1). http://www.sociologica.mulino.it/journal/article/index/Article/Journal:ARTICLE:178

Stegbauer, C. (2024). *Super weak ties: What culturally holds our society together [Superschwache Beziehungen, 2023]*. Springer Fachmedien Wiesbaden. https://doi.org/10.1007/978-3-658-43888-3

White, H. (1997). Can mathematics be social? Flexible representations for interaction process and its sociocultural constructions. *Sociological Forum, 12*(1), 53–71. https://doi.org/10.1023/A:1024604606367

White, H. (2008). Notes on the constituents of social structure. Soc. Rel. 10 – Spring '65'. *Sociologica, 1*. https://doi.org/10.2383/26576

White, H. C., & White, C. A. (1965). Canvases and careers: Institutional change in the French painting world. Wiley.

White, H. C. (1963). An anatomy of kinship: Mathematical models for structures of cumulated roles. Prentice-Hall.

White, H. C. (1970). Chains of opportunity: System models of mobility in organizations. Harvard University Press.

White, H. C. (1980). Fear and the rhetoric of confidence in science. In A. S. Markovits, & K. W. Deutsch (Eds.), *Fear of science – Trust in science* (pp. 199–209). Oelgeschlager, Gunn & Hain.

White, H.C. & White, C.A. (1965). Canvases and Careers: Institutional Change in the French Painting World. New York: Wiley.