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## **Panizzi, Lubetzky and Google: How the Modern Web Environment is Reinventing the Theory of Cataloguing**

**Abstract:** This paper uses classical bibliographic description theory to interpret the partial results of an exploratory qualitative study of the ways in which university students perceive and interact with Web search engines and Web-based OPACs. Sixteen university students performed a series of searches using a university OPAC and the Google search engine. High fidelity recordings of the searches were supplemented by think-afters and immediate follow-up interviews. In the OPAC searches, the participants often got lost and expressed frustration and annoyance. However, in the follow-up interviews, they praised the OPAC for being “organized,” even when they criticized other aspects of the library infrastructure. They blamed themselves for their poor results, citing lack of experience, or lack of patience. When we compared these responses to the satisfaction they expressed with their Google searches, an intriguing pattern emerged, which can be illuminated through the theories of Sir Anthony Panizzi and Seymour Lubetzky.

Both Panizzi and Lubetzky imply that the catalogue user approaches a search in two successive stages: a state of preliminary knowledge, requiring collocation, and one of advanced knowledge, requiring differentiation. The user needs first to locate a desired subset of documents which match the initial, rudimentary expression of the information need. Having located this local area (all documents that are manifestations of a particular author, a particular work, or a particular subject), the user can then use the structure provided within this local area to differentiate between the documents according to criteria that evolve through the browsing process: identifying desirable publication dates, the existence of notes and bibliographies, etc. This dual process was traditionally supported by a sophisticated entry system, which enabled the catalogue to group broad subsets of authors, works and subjects within a one-dimensional, linear sequence. The traditional card catalogue positioned the user at the head of a sequence, looking down a one-dimensional line, and yet able to isolate meaningful segments of that line, and to expand any point of that segment into a two-dimensional bibliographic record.

The study participants expressed frustration at the features of the OPAC which attempted to translate this linear entry system into the two-dimensional OPAC display. The students sensed that the precisely-worded access points, the sequences of hit lists, and the hyperlinked references were there for a reason; however, they could rarely use those cues usefully. While they sensed that the OPAC was “organized,” they were unable to exploit that organization, and attributed their failure to the inadequacy of their own skills, training and temperaments.

The analyses of the Google searches, on the other hand, revealed that the students were getting from Google the very help that Panizzi and Lubetzky advocated in catalogue design. Google, they often argued, gave them starting points: a set of resources that broadly addressed their requirements, enabling them to explore topics, acquire vocabulary, and get a greater sense of the knowledge structure that would help them to increase their precision in subsequent searches. Based though they are on principles and algorithms that would have horrified Panizzi and Lubetzky, search engines like Google are emerging as a surprising new embodiment of the core principles and objectives of library catalogues.