The Ethics of Querying and Permeating Canadian Everyday Life Nutritional Classification Technologies and Processes

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Abstract: Bowker and Star (1999) remind us that there is a moral and ethical agenda involved in querying classifications. In this paper I discuss how we can apply this argument to everyday life classifications, such as government produced food guides, in order to investigate the moral and ethical choices that are built into these technologies. While scholars have shown that everyday life classification processes can point out the limitations of everyday life classification technologies, in this paper I discuss how the food classificatory practices of 18 Canadian registered dietitians reinforce the understandings of health offered by Canada's food guide, at times to the detriment of those with non-standard understandings of health. While, in this study, registered dietitians' understandings of health did not address the limitations of Canada's food guide, I also discuss registered dietitians' suggestions for how the food guide could be modified to accommodate non-standard understandings of health. Similar to Olson's (2002) techniques for breaching limits, these suggestions offer a starting point for developing an ethical relationship with those individuals and communities whose understandings of health are not represented by the food guide.

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1.0 Introduction

Everyday life (EDL) classification "technologies" refer to static, non-neutral tools that order the world (McTavish 2015). An example of a formal but relatively static everyday life classification technology is government-produced food guides (e.g., ChooseMyPlate.gov), which organize food items into food groups based on their nutritional profiles and other "qualitative" factors (Katamay et al. 2007; McTavish 2015). EDL classification "processes" refer to the conceptual distinctions people make in their everyday lives (McTavish 2015). While it is currently a discipline-approved practice to distinguish between the classification systems of librarian "experts" and the categorization practices of others (see, for example, Jacob 2004; Beghtol 2008; Smiraglia 2008) and while EDL classification processes tend to be less discussed in library and information science due to perceptions of their idiosyncrasies (Mai 2008), in other work (McTavish 2015) I have shown that they can be useful for pointing out the limitations in messages provided by EDL classification technologies and can help to suggest ways to augment these systems. In this paper I describe an extension of my earlier work (McTavish 2015): the investigation of the EDL classification processes of food experts, registered dietitians. Following from domain-analytic tenets, an important assumption guiding this research is that (EDL) classification technologies and practices are reflections of a larger domain or larger "thought or discourse communities" (Hjørland and Albrechtsen 1995, 400).[1] In this study, registered dietitians' everyday life classification practices closely reflect and reaffirm the understandings of "health" and organization of food pro-

duced by their discipline—at times to the detriment of non-standard understandings of health. With a growing interest in everyday life knowledge organization technologies and practices and their impacts (see, relatedly, Hartel 2003; McKenzie and Davies 2015; Oh 2012), it is important to address the limitations of these technologies and to think about ways to make them permeable to all users.

1.1 The Ethical Task of Querying and Permeating Classifications

Bowker and Star (1999, 6) have argued that there is a "moral and ethical agenda" involved in querying classification systems as each category decision represents an inescapable, ethical choice to uncover. This argument can be applied to EDL classifications, such as the food guide, as they also prioritize certain points of view and silence others. Examples of these choices can be found by examining various iterations of Canada's food guide or by comparing food guides across different countries. For example, the organization of food groups in the 1942 version of Canada's food guide is in a hierarchy that positions the "milk" food group on top, followed beneath by fruits; vegetables; cereals and bread; meat, fish, etc.; and eggs (Health Canada 2007a). This hierarchy may reflect findings from an early nutritional study suggesting that improved health results from "an increased consumption of certain foods like milk, tomatoes, citrus fruits and whole grain cereals" (Pett 1944 13). The organization of foods in the current iteration of the four food groups positions the "vegetables and fruit" food group on top, followed beneath by grain products; milk and alternatives; and meat and alternatives (Health Canada 2007b). This hierarchy may reflect current findings about the importance of fruits and vegetables for health outcomes (Dauchet et al. 2006; Dauchet et al. 2005). Additional messages are linked to the food groups to provide guidance on the types of foods to choose from each food group in order to produce a "satisfactory" food intake pattern (that is, one that meets the nutritional requirements of most Canadians and reduces the risk of chronic diseases) (Katamay et al. 2007). These messages focus on individual responsibility for health (McTavish 2015) as opposed to framing nutritional issues as neighbourhood, community, or national issues—such as the nutritional impact of "food deserts," neighbourhoods that have limited access to affordable and nutritious foods options (Whitacre et al. 2009) and "food swamps," food environments that are saturated with high-energy foods at the expense of fresh produce (Rose et al. 2010).

Across countries the respective food guide food groups, foods emphasized, corresponding messages, and 'shapes' also differ (Meirelles 2007; Painter et al. 2002), although most food guides focus on an individualized approach to health that offer "consumers a selection of recommended food choices (food groups) as well as recommended daily amounts consumers should ingest to ensure optimal health" (Painter et al. 2002, 487). The political climate of the respective countries and various food-related stakeholders also influence food guides. The recent version of the American food guide (termed "MyPlate"), for example, has been criticized by the Harvard T. H. Chan School of Public Health (2015) for being influenced by lobbying efforts from the food industry. Brazil's dietary guidelines, by contrast, emphasize food production, distribution, social justice and environmental integrity (Ministry of Health of Brazil 2014). Discussions about the benefits and challenges of incorporating aspects of food production and sustainability issues into American food guidelines have already begun (Robien 2015).

While each country's food guide privileges certain food messages and silences others, Olson (1998, 235) has long reminded us that "any system or structure has limits, and that replacing one system with another will simply define different limits rather than being all inclusive." Rather than attempting to replace existing classifications, Olson's (2002, 226) solution to the necessarily exclusive nature of classifications is to design "active techniques for breaching the limit." These breaches, Olson (2002, 226) argues, help us develop an "ethical relationship" with people who have marginalized or silenced perspectives. Olson (2002, 227) suggests that these techniques must be dynamic by "address[ing] the relevant discourses in a particular context" and reflexive by "changing responsively over time and space defined in the broadest sense." Ensuring dynamic and reflexive breaches to Canada's food guide thus involves an understanding of the food guide and its components (such as the healthy eating messages attached to the food guide), as well as discourses related to healthy eating. In this paper, I describe registered dietitians' everyday life classification processes and how they reaffirm standard understandings of healthy eating offered by the food guide. I also discuss registered dietitians' suggestions for how the food guide can be permeated to accommodate non-standard understandings of health.

2.0 Methods

Eighteen food experts, registered dietitians, were recruited for this study. Three public health dietitians were recruited for their specific knowledge about public health priorities and 15 registered dietitians were selected randomly from the list of names included in the College of Dietitians of Ontario's public register (College of Dietitians of Ontario 2015), excluding those registered dietitians who primarily served elderly clients or children.

Registered dietitians (RD) were asked to complete a card sort exercise, in order to understand their individual ways of sorting/organizing food items and to compare their personal organizations of food with the 2007 iteration of Canada's food guide, *Eating Well with Canada's Food Guide*. Card sorts represent a useful method for analyzing peoples' everyday classificatory practices (Beltran et al. 2008; Blake et al. 2007; Ross and Murphy 1999). To learn more about how registered dietitians organize foods, especially in relation to the food guide, in this exercise participants were asked to undertake an unstructured card sort of 50 foods deemed to be "healthy" or "unhealthy" on Health Canada's (2007b) website platform for Canada's food guide. Details about the development of these cards are published elsewhere (McTavish in press). The only other instructions participants received were 1) not to sort all items into one pile 2) not to sort every statement into its own pile (although some items could be grouped by themselves), and 3) not to sort an item into more than one pile. Participants were asked to label their piles in a way that made sense to them and then asked follow-up questions about their sorting process.

After the card sort exercise registered dietitians were asked a series of interview questions about their understanding of healthy eating, how they define food expertise, and how, in their professional practice, they deal with clients who have different understandings of healthy eating. To frame the latter questions, the registered dietitians were presented with a summary list of "alternative" healthy eating ideas closely related to two different food-interested groups, Ethical vegans and community-oriented participants (see McTavish in press for more details on these "thought communities"). Transcripts were analyzed using grounded theory techniques (Corbin and Strauss 2008). Analysis included in this paper primarily relates to registered dietitians' personal understandings of healthy eating and organizations of food, as well as their suggestions for how the food guide could be modified.

3.0 Results

3.1 Participant Demographics

Eighteen registered dietitians who were primarily employed in a southwestern Ontario town were interviewed: three public health registered dietitians (Public Health RD), seven registered dietitians from a hospital setting (Hospital RD), two registered dietitians from community health organizations (Community Health RD), two registered dietitians who ran a dietetic practice for the general population (General Practice RD), and four registered dietitians whose role was primarily to teach at a university-based food and nutrition program (Academic RD).

3.2 Open Card Sort Results

Analysis of the registered dietitians' card sorts was less involved than the lay participants' card sort (details available in McTavish 2015) because their reliance on the food guide was evident. Specifically 11 of the registered dietitians explicitly stated that they sorted the foods in a manner similar to the food guide, four others used the same headings as the food guide (for example, "meat and alternatives"), but did not make explicit reference to the food guide, and three others sorted their foods according to a specific practice-related understanding of health (for example, what counts as a starch for diabetic clients; what foods are too high in salt for clients with cardiac conditions).

3.3 Registered Dietitians' Understanding of Healthy Eating

Except for one registered dietitian who referred to the importance of the environment in her understanding of healthy eating, Dietitians' understanding of healthy eating in this study closely reflected the healthy eating messages found in the food guide, including messages about eating a variety of foods from the four food groups; limiting foods high in fat, sugar or salt (or eating these foods in moderation); acquiring a balanced diet by regulating fat, salt, and sugar, energy inputs and outputs, and vitamin and nutrient levels; and eating to promote health and reduce the risk of chronic diseases: "healthy eating to me means eating a variety of foods from all of the different food groups, having a good balance of each food group, and recognizing that there are benefits in all foods in moderation" (Community Health RD); "healthy eating means including a variety of nutrients to ensure overall health and well-being, prevention of disease and maintenance of a healthy weight and lifestyle" (Hospital RD); "[healthy eating means] trying to limit high fat foods and added fats, salt" (Hospital RD). Registered dietitians in this study were particularly concerned about clients who eliminated a food group entirely from their diet: "if they are eliminating any food group then that is a big signal right there. That is not going to be giving you the balance of nutrients that your body needs" (Hospital RD).

3.4 Client-centred, Evidence-based Practice

After asking the registered dietitians about their understanding of healthy eating they were presented with a summary of "alternative" healthy eating perspectives that closely reflect two "thought communities," ethical vegans and community oriented participants (McTavish in press). They were asked if they had encountered clients with these conceptions of health in their professional practice and

how they would approach these understandings of health. Most reported that they had encountered a vegan at some point in their practice and many had encountered clients who were committed to local or organic eating practices. In their responses, registered dietitians' discussed the importance of client-centred practice, or understanding clients' food beliefs and nutrient needs and (when necessary) offering nutritional information from within an understanding of their clients' beliefs (Hospital RD):

> At the end of the day, the vegan diet is healthy. I certainly don't try to change that. I wouldn't get into a discourse about the dangers. I would not do that because it is not relevant as long as they are following the principles that will meet all of their micronutrient needs.

RDs also emphasized the importance of offering evidence-based information to clients, especially as a potential method for dispelling food myths: "It's science. We go back to the science, that is what we know. When the practice changes or the evidence changes, then that will inform our practice again" (Public Health RD); "and some of it is education as far as evidence-based versus I read this book or I looked this up on the internet" (Hospital RD); "some people I find don't get their information from credible sources and they think that whatever they see on the internet or read in a book that it's credible" (Academic RD).

3.5 The Role of the Food Guide

When asked what they thought the role of the food guide was for the general population, registered dietitians discussed how the food guide was an important tool used in their practice to simplify food evidence for their clients. Registered dietitians used the food guide as an educational tool (about healthy, "Canadian" foods), a quick reference tool, and a meal planning tool: "the purpose of Canada's food guide is to take the science of nutrition and provide it in an easy to read tool available to any Canadian" (Hospital RD); "[the food guide] really is a foundational, educational tool that we utilize to provide education and support to the general population" (Public Health RD). They also emphasized the importance of tailoring information from the food guide to meet their clients' individual nutritional needs: "[the food guide] is a nice jumping off point – we have to look at individual situations in order to make it really fit" (Public Health RD); "I think it [the food guide] is a good starting point … some people like to argue its merits and its limitations, but, as a starting point for broad teaching points, it can be very helpful" (Hospital RD).

3.6 Modifying the Food Guide

When asked whether or not it would be relevant to modify the food guide to accommodate different understandings of health, registered dietitians acknowledged that the food guide represented an attempt to address the needs of the general Canadian population and that this aim was challenging to achieve: "I understand why they want to make it so basic and general, so that the general population can use it" (Community Health RD); "the food guide is supposed to be more for the overall population" (Hospital RD); "it is a big undertaking with our multicultural society and geographically a huge region to meet all of the local demands of what those populations want" (General Practice RD). Some of the registered dietitians felt that it would be too confusing to Canadians to add more information, that it would potentially make the document too lengthy, that it would be challenging to decide what understandings of health were important enough to include in new versions, and that the food guide is already comprehensive enough, as well as research-based. These registered dietitians felt that any additional information a client might require should be provided by a nutrition expert, especially a registered dietitian (Academic RD):

> There is a substantial amount of research that has gone into it [the food guide] and continues to go into it to update it with experts in the field of nutrition. I think it's well supported by the literature and a tool that most people can use in order to address their eating preferences. If something is beyond that, then I think that is where an individual consultation with someone like a dietitian can be helpful.

With regard to vegan and community-oriented understandings of health (see McTavish in press), the registered dietitians generally felt that the concerns of vegan eaters were addressed by the "alternatives" category. Some also mentioned another food guide that has been created for vegetarians (Messina, Melina, and Mangels 2003), but noted that this version is not often used. Most of the registered dietitians thought that organic produce should not be addressed by the food guide, as they considered it an "expensive" option (Community Health RD), that there was not the "research necessary to support that organic is a superior food choice" (Hospital RD), and that this option that should be left to be a "personal decision" (Academic RD). Registered dietitians were also conflicted about whether or not to address local eating. Some thought that it would be challenging to design documents to address Canada's diverse geographical needs(Academic RD), (General Practice RD):

> I guess the food guide does not make any statements about eating local because in Health Canada there are practical problems with that. If you live in Nunavut, it is hard to get local vegetables and fruit. We have to be realistic about our climate and where we live and our geography.
>
> I do think it will be very difficult to design a food guide across Canada.

Others thought that addressing localness was an important sustainability issue: "eating local is a sustainability issue, so I think that is something that could be justified" (General Practice RD); "I think there will be a push towards more local, maybe organic, non-GMO food products" (General Practice RD).

For those registered dietitians who believe it is relevant to modify the food guide to address the concerns of different understandings of health, some had concrete suggestions for how the food guide could be improved, including the "plate method" (see, for example, U.S. Department of Agriculture 2012); adding links to the webpage for what types of foods consumers could get locally; and adding simple, key messages about eating locally: "I like the plate method. I tend to use that more for just general guidelines" (Public Health RD); "obviously, you can't put a lot on it [the food guide], but I think there are some basic key messages that we could be putting there" (Community Health RD).

4.0 Discussion

This research indicates that, for this study, registered dietitians' understandings of health and organizations of food closely reflect the healthy eating messages and organizations of food offered by the food guide. Further, their reliance on the "evidence" led several of them to dismiss understandings of healthy eating that did not reflect dominant discourses. These findings will first be discussed in order to better position effective strategies for permeating the food guide, an influential Canadian EDL classification.

4. 1 Reinforcing the Food Guide's Individualistic Healthy Eating Messages

Registered dietitians can be considered health info(r)mediators, or "people, as well as various configurations of people and technologies, that perform the mediating work involved in enabling health information seekers to locate, retrieve, understand, cope with and use the information for which they are looking" (Wathen et al. 2008, 5). If one asks, "What information do registered dietitians hope to convey to their clients?," the findings in this study suggest that the registered dietitians are advocates of the messages contained in the food guide. Specifically, they emphasize the importance of having a diet that balances the four food groups presented in the food guide and are concerned about clients who eliminate a food group entirely from their diet. They also emphasize an understanding of healthy eating in which the focus is on individual responsibility, and encourage their clients, for example, to monitor their own eating habits and eat a variety of foods in moderation to ensure health. As was discussed above, this contrasts with the framing of nutritional issues as neighbourhood, community, or national concerns (Whitacre et al. 2009; Rose et al. 2010).

4.2 Evidence-based or Evidence-informed Practice?

Registered dietitians in this study discussed how they saw the food guide as an important tool to translate expert, evidence-based, nutritional knowledge to the general public. According to the code of ethics for registered dietitians in Canada, part of registered dietitians' practice involves supporting "the advancement and dissemination of nutritional and related knowledge and skills" (Dietitians of Canada 1996). This knowledge, as is noted by the College of Dietitians of Ontario, the province of Ontario's regulating body, is scientific, medical, and nutritional in nature and translated by experts: "[Registered dietitians] are the recognized experts in translating scientific, medical and nutrition information into practical individualized therapeutic diets and meal plans for people" (College of Dietitians of Ontario 2014). While the client-centered understanding of eating practices emphasized by the registered dietitians in this study suggests that they would be accommodating of diverse understandings of health and healthy eating, their preference for evidence-based information led some of them to emphasize the "misinformation" and "non-credible" sources that their clients rely upon to make their eating decisions. Rather than positioning these different understandings of what constitutes healthy eating as "misinformed" or "non-credible," we need to consider how "healthy eating is as much about the everyday as it is about the scientific" (Ristovski-Slijepcevic et al. 2007 177). Privileging evidence over client preferences and values is a major critique of narrow interpretations of evidence-based practice (EBP). As Nevo and Slonin-Nevo (2011b, 5) argue, "while proponents of EBP do not advocate any assimilation of EBP to 'evidence-determined practice' and do not require practice to be based exclusively on evidence, no adequate account is given of the relationship between the evidence and other factors that go into the selection and the justification of practice." Other paradigms for framing clinical practice have been proposed that re-

position the patient, client, or person at the centre of discussion (rather than the 'evidence'), such as evidence-informed medicine (Chalmers 2005; Nevo and Slonim-Nevo 2011a) and person-centered medicine (Miles and Mezzich 2011). In practice, these paradigms ask that practitioners "grant 'priority' to the client's preferences and values, and will use the evidence as one factor to be considered" (Nevo and Slonim-Nevo 2011a, 9, emphasis added).

4.3 Permeating the Food Guide with Individuals or Groups' Food Values and Preferences

An individual's food values and preferences can vary depending on a number of factors, such as age, gender, socioeconomic status, and nationality or culture, and research has shown that dominant understandings of health (promoted by food guides) are only one factor considered when people make food choices (Ristovski-Slijepcevic et al. 2008; James 2004). James (2004, 357-8), for example, discussed how several African-American participants in his study "perceived 'eating healthfully' as giving up part of their cultural heritage and trying to conform to the dominant culture" and one participant in particular discussed how the U.S. Food Pyramid "doesn't show the types of food we [African Americans] usually eat." My earlier work (McTavish 2015) relatedly found that most participants disagreed with the healthy eating messages offered by the food guide and many offered alternative ways for labelling and organizing foods. Adequately augmenting the food guide with people's food preferences and values can therefore seem challenging and indeed many registered dietitians argued that if the food guide did not provide adequate information to suit the needs of an individual, a registered dietitian should be consulted for additional, tailored information.

Several attempts to modify Canadian and American food guides have already been made. An adaptation of the food guide by Health Canada, "My Food Guide," is an example of a tool that attempts to "personalize the information found in Canada's food Guide" by allowing users to modify the types of foods listed under the food groups, but not the food groups themselves or the healthy eating messages attached to the food groups. Oldways ("Heritage Pyramids" 2015), an American not-for-profit group, offers several alternative food pyramids that highlight different foods and some different food groups for specific populations (e.g. "African Heritage Pyramid") and diets (e.g. "Mediterranean Diet Pyramid"). More sophisticated food organization schemes, such as the European Food Safety Authority (EFSA) (2015) food classification and description system, Food Ex, also offer several different organizational possibilities. People with healthy eating views that map onto the food guide's focus on minimizing fat, sugar, or salt intakes may find the fat content facet (for example 2%) or sweetening agent facet (for example, sugar or honey) of interest, while those who are interested in an understanding of foods that addresses food processing may find the process-technology facet (for example, treatment with chemical substances) of interest. As Fox and Reece (2012) discuss, one way to incorporate users' perspectives into static systems (in order to make the system "hospitable, with mitigation") is to use tags and controlled vocabulary in tandem (Kipp and Campbell 2010; Spiteri 2006). Registered dietitians in this study similarly discussed the possibility of adding links from the food guide to different information sources. Different organizations have already started some of this work by offering information about the food guide in tandem with more tailored information, such as the Dietitians of Canada (2014), which offers "Healthy Eating Guidelines for Vegans."

5.0 Conclusion

Bowker and Star (1999) and library and information science professionals (see, for example, Olson 2002; Mai 2013; Tennis 2012) have helped to make the ethical and moral aspects of classifications visible, enabling us to develop strategies for making these systems permeable. This ethical and moral lens can be turned, as was done in this paper, onto everyday life classification technologies, such as governmental food guides, in order to show what points of view (and by extension, users) are valorized and silenced by these technologies. In order to aid this process, the everyday life classification processes of registered dietitians were used. This research shows that while topic experts, such as registered dietitians, may have consolidated understandings of their knowledge areas that can potentially dismiss non-standard perspectives, they can still offer valuable solutions for making everyday life classification technologies in their disciplines more permeable to users.

Notes

1. In this paper I will use "domain" to refer to "a sphere of thought or action" (Oxford University Press 2001). The sphere of thought that is examined in this paper is "healthy eating," which is an overlap of spheres of thought about food, health, and eating.

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