THE UNIVERSITY of EDINBURGH

Edinburgh Research Explorer

‘We can’t go back a hundred million years’

Low-carbohydrate dieters’ responses to nutritional primitivism

Citation for published version:
Knight, C 2015, ''We can’t go back a hundred million years’: Low-carbohydrate dieters’ responses to nutritional primitivism', *Food, Culture & Society*, vol. 18, no. 3, pp. 441-461. https://doi.org/10.1080/15528014.2015.1043107

Digital Object Identifier (DOI):
10.1080/15528014.2015.1043107

Link:
Link to publication record in Edinburgh Research Explorer

Document Version:
Peer reviewed version

Published In:
Food, Culture & Society

Publisher Rights Statement:
Accepted version of Knight, C. (2015). ‘We can’t go back a hundred million years’: Low-carbohydrate dieters’ responses to nutritional primitivism. Food, Culture and Society: An International Journal of Multidisciplinary Research. Accessible from: 10.1080/15528014.2015.1043107

General rights
Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy
The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.

OPEN ACCESS

Download date: 17. Nov. 2026

‘We can’t go back a hundred million years’: Low-carbohydrate dieters’ responses to nutritional primitivism

Dr Christine Knight
University of Edinburgh

Abstract

Low-carbohydrate diets such as the Atkins Diet were especially popular in English-speaking developed countries in the 1990s and 2000s. The popular low-carbohydrate literature displays a strong discourse of ‘nutritional primitivism’: pursuit of supposedly simpler, more natural and authentic ways of eating, as part of a quest for health. Nutritional primitivism includes evolutionary explanations for obesity and type-2 diabetes, and arguments based on nutritional anthropology. This paper explores low-carbohydrate dieters’ responses to nutritional primitivism, based on an interview study late in the low-carbohydrate trend. Although some interviewees accepted nutritional primitivism unproblematically, most approached such ideas critically and sceptically – cause for cautious celebration given the problems of logic, evidence and (on occasion) racism in the primitivist discourse of the low-carbohydrate literature.

Keywords

low-carbohydrate diet; high-protein diet; Paleo diet; diet books; evolution; genetics; obesity; primitivism

Introduction

Low-carbohydrate diets include the notorious Atkins Diet (Atkins, 2002), and other popular plans such as the South Beach Diet, Protein Power and The Zone (Agatston, 2003; Eades & Eades, 1996; Sears, 1995). Based on the idea that the modern Western diet, high in refined carbohydrates, causes obesity and type-2 diabetes, such diets recommend reducing intake of starchy and sugary foods – including bread, rice, pasta and potatoes; all foods with added sugars; and certain high-carbohydrate fruits and vegetables, such as bananas and many root vegetables. Low-carbohydrate diets have gone through cycles of popularity since at least the nineteenth century (Banting, 1864), with particular upsurges in the late 1920s and 1930s (Lieb, 1929; Price, 1939), and 1960s and 1970s (Atkins, 1972; Cleave, 1974; Dufty, 1976; Stillman, 1967; Tarnower, 1978; Yudkin, 1972). Most recently, they surged in popularity (especially in English-speaking developed nations such as the United States, United Kingdom and Australia) during the late 1990s

and early 2000s. Since 2004, low-carbohydrate plans such as Atkins have dwindled in popularity in English-speaking countries ('Low carb comeback,' 2013), although in the same period, low-carbohydrate/high-fat diets have become extremely popular in Scandinavia (Gunnarsson & Elam, 2012).

The low-carbohydrate diet trend sparked controversy because popular plans conflict with mainstream dietary advice, in particular to limit consumption of fat (especially saturated fat), raising concerns about cardiovascular disease risk. However, the results of clinical research prompted by the popularity of low-carbohydrate diets did not straightforwardly support concerns about health dangers (Hession, Rolland, Kulkarni, Wise, & Broom, 2009; Nordmann et al., 2006). The low-carbohydrate trend thus contributed to a broader shift over the last decade in both lay and expert beliefs about the role of carbohydrates in a healthy diet.

The period since the late 1990s has also seen the rise of related 'Paleo' diets (e.g., Audette, 1999; Cordain, 2001), modelled on evidence about the diet eaten by humans during the Paleolithic era. While the two regimes and trends should not be confused, Paleo diets share dietary features with low-carbohydrate diets, notably the exclusion (or extreme reduction) of processed starches and sugars. In practice, many Paleo diets are high-protein and low-carbohydrate, although this is not always the case. Popular Paleo diets also share discursive features with low-carbohydrate diets (Knight, 2005). These include the fundamental discourse of evolutionary nutrition – 'the premise that the human body has adapted to function best on the diet eaten in the Paleolithic era' (Knight, 2011b, p. 707) – supported by references to nutritional anthropology.

Evolutionary nutrition represents the core of the discourse I have called 'nutritional primitivism' (Knight, 2008, 2012b). Bell (1972) describes primitivism as '[t]he nostalgia of civilized man for a return to a primitive or pre-civilized condition' (p. 1).[1] Adams (1998) contrasts primitivism with progressivism, describing primitivism as 'an ideology that views the development of civilization with regret rather than with approval' (p. 111). Based on my analysis of primitivism in low-carbohydrate diet books, I define nutritional primitivism somewhat more broadly, as the pursuit of ostensibly simpler, more natural and authentic ways of eating as part of a quest for health through diet. This includes more general, related preferences for natural, traditional and 'ethnic' foods and foodways (Knight, 2011a, 2012a), alongside quintessential appeals to the pre-agricultural diet of 'our primitive ancestors' (Atkins, 2002, p. 329). While primitivism is 'immensely powerful and seductive' (Torgovnick, 1990, p. 3), it is by no means innocent. At best, nutritional primitivism faces problems with its supporting evidence and logic; at worst, it is frankly racist in its representation of contemporary Indigenous peoples – critiques I develop in detail elsewhere (Knight, 2005, 2011b, 2012b).

[1] For an exploration of gender in primitivist discourse, see Torgovnick (1997).

The present paper is based on interviews with low-carbohydrate dieters late in the recent low-carbohydrate trend, and explores dieters' responses to nutritional primitivism in low-carbohydrate discourse, focussing on key evolutionary ideas. In part, I consider whether findings from existing research with self-help book readers apply equally to readers of diet books, although participants also engaged with other sources of information about low-carbohydrate diets. (These included media reports and documentaries; websites and online discussion groups; peer-reviewed scientific papers; mainstream and alternative health practitioners; and family and friends.) Consistent with other self-help book readers, I found that most dieters I interviewed engaged actively and critically with dieting texts and the discourse of nutritional primitivism. While adding to our understanding of the recent low-carbohydrate diet trend, these findings have continuing relevance both to our understanding of dieting (including how dieters use and engage with diet books and other sources of information), and also how dieters engage with nutritional primitivism, given the current popularity of related Paleo regimes.

Literature review

Qualitative sociological and cultural studies of dieting have been dominated by gender issues, especially feminist critique of the thin ideal (Bordo, 1993; Chernin, 1981; Germov & Williams, 1996a, 1996b, 1999; McKinley, 1999; Orbach, 1978; Qazi & Keval, 2013; Spitzack, 1990; Wolf, 1991; Wooley, Wooley, & Dyrenforth, 1979). However, both the 'obesity epidemic' and the low-carbohydrate trend arguably challenge the predominant feminisation of dieting in Western societies (Bentley, 2004, 2005; Blanck et al., 2006; Boero, 2007, p. 44 n. 11). In the context of the 'obesity epidemic', increased public attention is directed at overweight and obese male bodies, while low-carbohydrate diets seem to appeal more to men. Thus more recently, social scientists have begun to investigate men's understandings, practices and experiences of dieting (De Souza & Ciclitira, 2005; Mallyon, Holmes, Coveney, & Zadoroznyj, 2010), and representation of men and diet in the media (Gough, 2007). Others have paid due attention to factors such as age (Gimlin, 2007) and social class (Lhuissier, 2012) in relation to dieting.

However, social scientific research on dieting has rarely investigated specific diet plans, and the practices or discourse associated with them (cf. Coleman, 2010; Mol, 2013). Thus despite the sustained popularity of low-carbohydrate dieting, the peer-reviewed literature on this topic is limited. Parasecoli (2008, pp. 87-96) uses Atkins as an exemplar diet to explain broader concepts relating to body image and Lacanian theory. More specifically, Gunnarsson and Elam (2012) argue that the low-carbohydrate/high fat (LCHF) diet movement in Sweden has successfully deployed strategies of science popularisation. Scholars have made a number of less formal contributions in the press, literary magazines and an anthology aimed at a general audience (Heldke, Mommer, &

Pineo, 2005; Probyn, 2003; Shapin, 2004). Broader works in food history and body politics have also briefly referred to the Atkins Diet. However, these have tended to suggest that Atkins is a dangerous 'fad' promoting quick weight-loss with reckless disregard for overall health (e.g., Belasco, 2007, p. 251; Spitzack, 1990, p. 22). Such comments do not necessarily reflect the varied recommendations of low-carbohydrate diet books; what low-carbohydrate dieters eat in practice (Feinman, Vernon, & Westman, 2006); nor recent scientific research on the health effects of low-carbohydrate diets, as noted above and discussed further elsewhere (Knight, 2011b, p. 716). Moreover, even where low-carbohydrate diet books contradict mainstream nutritional advice, they display a consistent and passionate discourse of holistic health and wellbeing, belying suggestions that their authors deliberately sideline health.

Within the peer-reviewed literature on low-carbohydrate diets in the social sciences and humanities, my own work has examined primitivist arguments and tropes in low-carbohydrate diet books, including evolutionary nutrition and the thrifty gene theory (Knight, 2011b), and the deployment of anthropological and nutrition research relating to Indigenous peoples (Knight 2012b). Shapin (2004) and Mouton (2001) also note primitivist themes in low-carbohydrate diet books. I have also compared my readings of the popular low-carbohydrate literature against the opinions, practices and discourse of dieters themselves in relation to culinary nostalgia and tradition (Knight, 2011a). On that topic there is a disjuncture between the discourse of popular low-carbohydrate diet books and dieting practice: the practical necessity of excluding staple starches severs dieters from their own and Other culinary traditions, the opposite of what low-carbohydrate authors claim. This paper also builds on Bentley's interviews with low-carbohydrate dieters (2004), which focus on the "masculinization of dieting" (p. 35), while exploring issues of class and ethnicity in relation to Atkins Diet foods and meals.

Although no previous research that I know of has investigated dieters' responses to diet books, such texts may be considered part of the self-help genre (Kissling, 1995; Knudson, 2013, p. 213). Self-help reading is 'understudied' (Knudson, 2013, p. 212), but existing research suggests that readers do not 'swallow' the self-help text whole (Radway, 1986). Rather, readers are *active*, *selective* and *interpretive* in their reading, and 'pick and choose' ideas and information from multiple sources (Coyle & Grodin, 1993; Grodin, 1991; Lichterman, 1992). In other words, self-help readers 'engag[e] critically with advice instead of accepting or rejecting authors' advice in its entirety' (Knudson, 2013, p. 215). In reporting on interviews with low-carbohydrate dieters, I investigate whether these conclusions apply equally to readers of diet books, while considering how dieters engage with the primitivist ideas they may encounter in a wide range of cultural texts and sources of information relating to low-carbohydrate dieting. This paper is thus informed by broader cultural studies perspectives which stress that "[a]udiences are not passive receivers of messages […]. Rather, they are active creators of meaning, drawing on their own personal store of

pre-existing experiences and meanings, as well as specific texts and the vast 'library' of imaginings and meanings that are held within culture itself" (Lewis, 2008, p. 5).

Methods

This paper is based on in-depth, semi-structured interviews with 15 low-carbohydrate dieters. Recruitment began in January 2006 and aimed at reflecting a range of experiences and views, based on rich and varied data. To support this aim a press release was issued to South Australian media, resulting in a short radio interview on state-wide public radio (ABC 891). In the press release and radio interview I invited current and former low-carbohydrate dieters to contact me if they would be willing to participate in an interview. Participants self-identified as low-carbohydrate dieters, rather than my assessing their dietary practices or food intake. Volunteers completed a short questionnaire about their reasons for dieting, choice of diet, and sources of dieting information, to assist with their subsequent interview. Recruitment was finalised when theoretical saturation was reached.

I conducted interviews between February and April 2006. Each interview lasted around 1 hour. All but one took place at CSIRO Human Nutrition in central Adelaide; the remaining interview took place in the participant's home at her request. Each participant received a shopping voucher (AU$20) in compensation for time and travel, consistent with CSIRO Human Nutrition policy at the time. Interviews were deliberately wide-ranging and exploratory, covering dieters' motivations, practices, experiences, and beliefs and attitudes about low-carbohydrate dieting and nutrition. However, my focus in this paper is dieters' responses to nutritional primitivism; participants' practical dieting motivations and experiences are not reported here, except in passing to provide context. At least four interviewees broached themes relating to nutritional primitivism spontaneously. Where participants did not do so, the semi-structured design allowed me to ask about this directly (as well as following other topics that emerged during the interview). For example, had the participant encountered the idea that a low-carbohydrate diet is what people are 'meant' to eat? What did he or she think of this?

Interviews were audio-recorded and transcribed by an independent transcriber. I offered participants the chance to view and make changes to their interview transcript once available. Eight participants elected to check their transcript, and two subsequently returned these with comments and changes, which I incorporated into the final version used for analysis. Interview material was initially analysed and coded thematically. Coding was undertaken manually. I applied categories derived from the interview data, diet books, and the literature on primitivism. Following thematic analysis, data excerpts relating to nutritional primitivism were analysed discursively.

All data have been anonymised; I use gender-matched pseudonyms to refer to participants. The study was approved by the Human Research Ethics Committee, University of Adelaide, Australia. This was endorsed by the Human Research Ethics Committee, Human Nutrition Division, Commonwealth Scientific and Industrial Research Organisation (CSIRO).

Participants were 12 women and 3 men, aged between 22 and 59 years. Twelve participants were from metropolitan Adelaide and three from regional areas. All were of European background (including British and Irish). Two participants were former low-carbohydrate dieters; thirteen were current. The total duration for which participants had used a low-carbohydrate diet ranged from three months to six years at the time of interview. Eight participants had followed the diet for two years or more, and at least seven were long-term 'low-carbers', committed to a more-or-less lifelong low-carbohydrate lifestyle for ongoing health and wellbeing. Although I have highlighted that Paleo diets share dietary recommendations and discursive features with low-carbohydrate diets, I stress that my findings are based on interviews with low-carbohydrate dieters, not Paleo dieters. Recruitment materials referred specifically to low-carbohydrate dieters, and interviewees self-identified as such to take part. Moreover, when dieters referred to Paleo diets during interviews, they drew a distinction between low-carbohydrate and Paleo dieters; identified themselves clearly as the former; and argued against what they saw as the more extreme discourse and recommendations of Paleo diets, as discussed further below.

Findings

Nearly all the dieters I interviewed were well aware of the evolutionary and genetic theories associated with low-carbohydrate diets, could explain them in relatively detailed fashion, and (in many cases) engaged enthusiastically in debating their validity and significance.

'I sat down and read it and it all made sense'

Several dieters appeared to have accepted in their entirety the evolutionary and genetic models presented in popular low-carbohydrate diet books and elsewhere. For example, Phil had been 'converted' to low-carbohydrate dieting in 2000 (6 years before his interview), when he was diagnosed with high cholesterol and subsequently came across a copy of *Protein Power*. At the beginning of his interview, Phil described how when he first read *Protein Power*, 'it all made sense' to him.[2] At several points during our discussion, Phil spontaneously echoed primitivist concepts and passages from the book, sometimes close to verbatim. For instance, when asked to explain the 'take-home message' of *Protein Power*, Phil spontaneously recounted the thrifty gene theory,[3]

[2] The subheading is a longer version of the same quotation.
[3] The thrifty gene theory suggests that "feast-or-famine" cycles during key periods of human evolution naturally selected for those who stored excess energy as body fat, to be drawn on when food was scarce.

though without naming it as such. His account drew closely on key passages from *Protein Power*, such that I could identify specific page references corresponding to the ideas he expressed (Eades & Eades, 1996, pp. 34, 401, 405-406).

Later, Phil spontaneously echoed primitivist concepts and passages from *Protein Power* when explaining his views on the health and safety of low-carbohydrate diets:

> *CK*: Do you think that the diet […] would be healthy for everyone?
>
> *Phil*: Should be, yes, we're all carnivores so whether we've come from Taiwan or Alaska, we're all the same gene pool really. We all deal with food the same way.
>
> *CK*: […] What about safety […] do you think there are any valid safety concerns on a low-carb diet?
>
> *Phil*: No, we don't need carbs. There's Eskimos that get snowed [in] for six months of the year and eat nothing but really high-fat meat and come out perfectly healthy […].

Phil's claim that 'we're all carnivores' is clearly not true literally; not everyone eats meat. Rather, I understand Phil to mean that we are all carnivores *physiologically*, based on our prehistoric genetic inheritance. Phil here replicates a model of human evolutionary and genetic homogeneity that is typical of the low-carbohydrate literature, especially *Dr. Atkins' new diet revolution* (2002), which he had also read.[4] The emphasis is on humanity's common ancestral and evolutionary origins, and hence the universal suitability of a high-protein diet. Because, in Phil's view, human beings are all the same in our responses to food, the cross-cultural example of the 'Eskimos' functions as evidence that a high-protein diet is healthy for all. The references to Alaska and Eskimos clearly echo *Protein Power* (e.g., pp. 9, 148), and may ultimately be traced to the extraordinarily influential research of explorer Vilhjalmur Stefánsson (1946, 1956), whose work has passed historically and conceptually through the high-protein literature (Knight, 2012b). As they do in *Protein Power*, Stefánsson's 'Eskimos' live on in Phil's comments in perpetually present stereotype, with no reference to the cultural and nutritional changes of the last century.

Lisa, who had also read Atkins (2002), agreed enthusiastically that he was 'dead right'. She argued that our divergence from the diet 'nature intended us to eat' has caused the current obesity crisis:

> [I]f you would look at say perhaps a tribe living out there without […] factories creating grains and rices [*sic*] and pastas and that sort of thing, they have to go out and pick their food and they have to grow it […]. And look at their weight, they're completely different to what we are […] and why, because they're eating the foods that nature intended for them to eat. They do eat high protein too, lots of meat, because they hunt.

When food is constantly abundant, as for most people in the developed world today, those with the "thrifty gene" are supposedly predisposed to obesity and type-2 diabetes.

[4] Phil did not cite any sources of dieting information apart from diet books.

In this extract Lisa constructs an imaginary example of the primitive Other 'out there' in the wilderness. 'Out there', in Lisa's vision, means out of reach of industrial civilisation, here represented by the factory. The 'tribe' of Lisa's imagination is locked in a circular logical loop. Lisa first defines an imaginary group which is isolated from industrial civilisation and subsists by means of foraging and small-scale agriculture. Thus far this tribe might be hypothetical. But when Lisa urges me as interviewer to 'look at their weight, they're completely different to what we are', the tribe becomes embodied, real. Yet Lisa has imagined and defined this tribe in simple binary opposition to industrial civilisation and the overweight bodies it feeds ('our' bodies). 'The foods that nature intended for them to eat' are simply those that are *not* industrial and *not* civilised (not refined carbohydrates). Lisa's afterthought regarding protein, meat and hunting further reflects the discursive need to make primitive diet fit a preconceived low-carbohydrate model.

The conspicuous romanticism of Lisa's vision and vocabulary conceals a definitively primitivist discontent with contemporary Western culture, nutrition and health. Lisa also expressed intense, moralistic criticism of Western dietary abundance, which she associated with processed starches and sugars (see also Atkins, 2002; Knight, 2012a, pp. 108-109):

> [Y]ou grab a donut or grab a cake […] and *it's too readily available. We live in a very abundant society* […]. I watch a lot of those medical programs and […] they had a chap on there who was, oh he was a ton, humungous, and then why? Because he just sat there and ate all day. […] I couldn't believe what this man could put in his mouth. Rubbish, just totally rubbish. And *that's because it's so available. You go to the third world and you wouldn't get that*. (emphasis added)

Lisa's comments here are undeniably outspoken. First, she criticises an obese hospital patient for his perceived gluttony, and then refigures third-world scarcity as desirable. But Lisa's comments indicate an awareness that the West could be other than it currently is, and (in a typical primitivist move) she looks to non-Western regions and cultures for alternatives:

> [I]f you don't have cereal what do you eat? I mean I think we get so indoctrinated with that sort of thing, you know and it's a lifestyle pattern that you develop since [you are] a child […] especially in the Western diet. You […] go over to Asia and they don't eat that sort of stuff for breakfast, they eat rice […] so everything's completely different. So yeah […] my initial reaction was "I can't do that". And the determination kicked in and said "yes you can, you can do anything you put your mind to".

Lisa's cross-cultural comparison of Australian and Asian foodways highlights the constructedness of cultural (food) practices, and hence their openness to change. In the context of her discontent with Western foodways, Lisa's acknowledgement of global cultural difference opens a strategic space for nutritional transformation. Such cross-cultural criticism of the modern Western diet is consistent and closely entwined with the more overtly primitivist ideas Lisa rehearsed elsewhere in

her interview; both modes are also key features of the low-carbohydrate diet literature (Knight, 2011a, 2012b).

'I can see that all of this is an hypothesis'

Amongst my interviewees, however, those who unproblematically accepted nutritional primitivism represented a minority; most approached this critically and sceptically. This applied even where dieters were generally sympathetic to evolutionary, genetic and anthropological justifications for low-carbohydrate dieting. For example, John expressed his sympathy toward evolutionary nutrition in terms that acknowledged its hypothetical status:

> Insulin gets a big amount of attention mostly from people becoming diabetic and […] progressing through the states of diabetes. *It's interesting to sort of conjecture* some of the people who write about the protein power,[5] making a point that it's really only in the last thousand years that we've moved away from being hunters and gatherers as a human race (relying on a lot more protein and vegetable in the diet) and moved to processed foods that are predominantly carbohydrate. And when you sit down and think about it, and when you look at everything that happens, and you look at the types of fats that are around, *I think that's probably right. It strikes a chord* in terms of thinking about what it is that is actually happening and why it is happening. (emphasis added)

John's reasoning is somewhat vague, but in context I suggest we may assume that he is positing a link between increasing prevalence of diabetes and the shift from a hunter-gatherer diet to one high in processed carbohydrates. The historical timeframe to which John refers is rather short: the agricultural revolution is generally agreed to have begun about 10,000 years ago. But the point I want to highlight is that John's vocabulary presents his argument as plausible or logical, not necessarily 'true'. The evolutionary and historical explanation for diabetes 'strikes a chord'; it makes sense of the evidence. But ultimately this is 'conjecture': it can only (ever) be '*probably* right' (emphasis added). As quoted in the subheading, John subsequently stated spontaneously: 'I can see that all of this is an hypothesis'. Pam, another participant, used similar vocabulary to express her sympathy with genetic and evolutionary arguments she had read in *Taming the Dinosaur Gene* (Mitchell & Mitchell, 1999).

Other interviewees deployed alternative discursive strategies to maintain a safe distance from nutritional primitivism. For example, when asked whether she had come across the theory that a low-carbohydrate diet is 'what people are meant to eat', Alison carefully reserved judgement because she had not encountered the idea in those terms before:

[5] John had read and followed *Protein Power* (Eades & Eades, 1996), as well as *The X Factor Diet* (Kenton, 2002), which has a chapter called 'Protein Power' (pp. 60-65).

> I probably haven't heard it put in that sense but it makes […] a lot of sense like […] back in caveman days […] they didn't have all the refined sugars and things that we […] are pumping in[to] our bodies. […] I can imagine it being like how we're meant to eat but […] I'd have to think about it before just accepting it.

Alison's response is interesting because even though she cannot recall encountering the theory that a low-carbohydrate diet is 'what people are meant to eat', she is clearly familiar with the discourse of evolutionary nutrition; hence her spontaneous reference to 'caveman days'. Alison had not read any low-carbohydrate diet books in full. When first diagnosed with type-2 diabetes, prompting her change of diet, she had started reading *The Zone*, but found it long on explanation and short on practical advice. Presumably, her exposure to evolutionary nutrition came from the medical and nutrition websites from which she garnered most of her dieting information.

Several dieters distanced themselves from evolutionary explanations of body-weight and health by attributing these to other people. For example, Gina repeatedly attributed the notion that a low-carbohydrate diet is 'what nature intended' to the naturopath who recommended the Ultra Lite diet to her (www.ultralite.com.au). When I asked Gina whether she agreed, her response was hesitant: 'Oh, I suppose in a way I do […] I suppose I can see the connection there'. Luke and Sarah employed the further discursive strategy of presenting both sides of evolutionary nutrition debates, highlighting the contested nature of knowledge in this area, and constructing themselves as sceptical and impartial in the midst of a very noisy debate. This was a discursive manoeuvre common to many interviewees. For example, Tracey described reading *Dr. Atkins' new diet revolution* with a degree of scepticism, knowing that Atkins was financially, professionally and ideologically committed to low-carbohydrate diets:

> *CK*: Atkins talks about the whole idea that low-carb is what people are meant to eat; what do you think about those kinds of ideas?
>
> *Tracey*: I think of course that *they're going to have their own agendas to write the book*, but a lot of the human body isn't meant to have processed grains and that kind of thing anyway […]. (emphasis added)

Note that Tracey sympathises with Atkins's primitivist logic. But she prefaces her agreement with an indication that she has recognised, and taken into account, Atkins's 'agenda' in reaching her own decision. Thus Tracey constructs herself as an 'active' and 'selective' reader, lest the listener think that because she is an Atkins dieter, she must have 'swallowed' the Atkins text whole.

'We can't go back a hundred million years'

Nutritional primitivism seems to hold a peculiar appeal for certain people (such as Phil and Lisa), to whom it immediately 'makes sense'. By contrast, other interviewees found nutritional primitivism 'bizarre' and illogical. For example, Karen found the 'caveman' diet a useful model for distinguishing between acceptable and unacceptable foods on Atkins. However, she had 'no idea'

what the logic behind this model might be. For her, the rule 'eat how they would have eaten as cavemen' placed a helpful but completely arbitrary limit on food intake:

> *Karen*: I do remember something about the Neanderthal kind of thing that you eat […] how they would have eaten as cavemen. They couldn't grow things because they were transient so they need to be transient foods. Potatoes wasn't [*sic*] a transient food. Killing a dinosaur and eating it was a transient food. […] They couldn't sow those crops and stay in one place and watch those crops grow […] so you didn't eat the cropped food […] it made sense to me and it was a lot easier actually to work out what you could and couldn't eat. Because you would have a look at something and go: "now would I have to wait six months for this?" […]
>
> *CK*: How do you think that relates to weight loss?
>
> *Karen*: I have no idea! […] You know, if you're really struggling […] Weight Watchers tells you […] a piece of meat has to be the size of your palm, so you have these visuals. You know you're allowed to have a piece of cheese but it's only the size of a matchbox. […] I had big-ass matchboxes by the way. They didn't stipulate […] and when you're […] looking at "can I walk along the ground and just pick up a green leafy vegetable? well yes I can" […] it's got that same kind of concept to it […] you can get a little silly with it […]. You need some rules and some boundaries, or else all of a sudden […] you manage to plant a harvest of potatoes and you're transient and you come back to it and yes, you can pull it out of the ground – this is weird. You need some rules […].

Karen's notion of 'transient' or nomadic foods is a novel linguistic and conceptual take on the evolutionary prescription to 'eat what your ancestors ate'. Consistent with evolutionary nutrition principles, Karen constructs a crucial distinction between hunter-gatherers and agriculturalists. In Karen's logic, whether a food is 'transient' (whether it could be hunted or gathered en route from place to place) becomes the key criterion for acceptability, excluding domesticated plants and animals. Karen compares the 'transient food' rule to Weight Watchers' visual portion size cues: both are an arbitrary means to restrict food intake. Like portion size cues, Karen points out that the 'transient' criterion is almost infinitely flexible – thus revealing the constructedness of the boundary between wild and domestic, natural and man-made. What counts as 'transient' food, wild food, or natural food is defined according to a set of preconceived nutritional axioms in which leafy greens and animal flesh are healthy, while potatoes and grain crops are not.

The issue of 'where to draw the line' is an anxious and recurring problem in low-carbohydrate logic. How much human intervention in food is *too* much? How far back in history must we go to find the optimum nutritional model? Long-term 'low-carbers' Luke and Michelle both distanced themselves from strict Paleo diets, questioning the need to draw the nutritional line at such an early point historically. Luke pointed out that obesity only emerged as a major public health problem in the last

few decades. He highlighted the need to identify specific *recent* dietary and lifestyle changes which might be responsible:

> I know the people who go the next step to […] the Paleo diet […] basically meats and nuts and no really fruit […] I kind of figured there's a lot of fruit around people have been eating for a long time, and […] obesity has only become a […] really big deal in the last ten, twenty years […] and the things that are happening in the last ten or twenty years is that we are frying, deep-frying a lot more of our food, eating a lot more stuff that has grain sugar and […] processed sugar and […] processed fats and oils and stuff that's extracted rather than just naturally […] in what we are eating.

Luke's approach parallels that of critical obesity scholars Gard and Wright (2005), who point out that '[t]he scientific literature generally claims that overweight and obesity have exploded over the last twenty or thirty years' (p. 108). Yet, they claim, 'scientists rarely look closely at Western life during the 1950s or any other period from the relatively recent past' in order to find explanations for the recent epidemic of obesity, instead preferring to seek clues in the Stone Age (p. 108). By contrast, Luke identifies four components of the (Western) diet that have increased markedly in recent years, which might be implicated in current obesity rates: deep-fried foods, processed fats and oils, processed sugars, and highly refined 'extracts' in general. Luke's comments implicitly reject a strict evolutionary logic. To paraphrase Gard and Wright, evolutionary explanations for the obesity epidemic logically demand that during the hundreds of thousands of years that separate the supposed establishment of the human genome and the widespread emergence of obesity, human diet remained consonant with our Paleolithic 'design': 'the "obesity epidemic" must represent a tipping point when Western societies, *en masse*, suddenly crossed over a threshold, which had remained uncrossed for millennia' (Gard & Wright, 2005, p. 111). Such a scenario seems highly unlikely. Instead, Gard and Wright suggest, '[w]hat is needed […] are clear and specific arguments about concrete events that have caused increasing overweight and obesity in some, but not all, communities' (p. 111).

While Luke implicitly rejected an evolutionary explanation for obesity, Michelle questioned the logic of strict 'Paleo' diets from *within* the evolutionary model. Unlike Luke, Michelle was concerned not just with weight but with optimal health – a hallmark of the low-carbohydrate movement. I have noted elsewhere (Knight, 2011b) that evolutionary nutrition may rest on one or both of two premises: first, that Stone-Age men and women were exceptionally fit and healthy; second, that the Paleolithic era represents the 'evolutionary window' during which human nutritional adaptation occurred. Michelle disagreed with both these principles. She pointed out that Paleolithic people have been far surpassed by subsequent generations in intelligence and technological development. Further, she argued, these achievements indicate that human evolutionary

development did not stop with the end of the Stone Age. Michelle concluded that Paleolithic diet may not have been 'optimal' after all.

Later, Michelle offered a second 'para-critique' of Paleo diets, reiterating similar arguments. In the final lines below, she shifts tack and begins to question the practical relevance of the evolutionary nutrition paradigm:

> Paleo [dieters] some of them are usually from the school of […] if it's white it's evil, if it's a carb it's evil, like never potatoes [… be]cause that was born in […] agriculture[. But] it was there in the first place, we probably weren't supposed to eat so much of it but […] I can't believe that we never ate some of those things. […] I think when agriculture come in [*sic*], it probably […] was bad in a way but at the same time I think it must have helped us because in some things […] we've advanced. […] We'll probably live a lot longer and probably a lot more people survive […] less starvation I guess but […] back then who says how regular food was, or, it's hard to imagine how healthy […] they would have necessarily been. They might have gone for a week before they found anything to eat […].

Initially, Michelle questions the need to exclude agricultural products completely. She points out that starchy foods like potatoes were originally wild, and were therefore consumed before development of agriculture, albeit in smaller quantities than today. Michelle acknowledges that the boundary between wild and domesticated foods is fluid and constructed; the distinction may be of degree rather than kind (as I suggested earlier based on Karen's comments). In effect, Michelle criticises the black-and-white nature of strict low-carbohydrate logic. Like other interviewees, she seemed willing to tolerate high levels of complexity and uncertainty in this area while nonetheless following a low-carbohydrate diet long-term (four years at the time of interview).

Michelle then reiterates her argument that subsequent human generations have surpassed our Paleolithic ancestors: famine and mortality, she suggests, have both declined since the Stone Age. Interestingly, Michelle again takes a familiar notion from the low-carbohydrate literature and other popular diet sources (that of 'feast-or-famine' cycles) and reapplies it in a way that disrupts low-carbohydrate logic. Instead of invoking prehistoric feast-or-famine cycles as evidence for the thrifty gene theory, Michelle uses the occurrence of famine in prehistoric times to question whether human health during the Paleolithic era really was optimal. In other words, she uses the thrifty gene theory to attack evolutionary nutrition. Ultimately, Michelle stresses the inevitable uncertainty of our knowledge of prehistoric life. We will never have a definitive picture of Paleolithic health, nor can we know for certain how regular the food supply was. As Michelle stated earlier, 'I see both sides of it […] I just think of it as maybes'. Such uncertainty clearly does not provide a basis for recommendations about contemporary nutrition.

Michelle highlighted similar uncertainty in nutritional anthropology, the basis of low-carbohydrate authors' cross-cultural claims (Knight, 2012b; Mouton, 2001). Later in her interview, Michelle shifted from discussion of the Paleolithic era to more recent times. Drawing on a recent television documentary, as well as a range of online sources and books, she emphasised slippage and uncertainty in cross-cultural comparisons between the Inuit, the Masai and the rest of the world. Noting that 'Eskimo' health and diet are often used as evidence to recommend fish oil, she pointed out that marine oil in the Inuit diet derives primarily from seal blubber, which is not the same as fish oil. Michelle also argued that it is dangerous to recommend the high-protein traditional Inuit or Masai diet as a healthy prototype for Western dieters given that both groups have very high rates of miscarriage and stillbirth. However, as she pointed out, the limited historical evidence available makes it impossible to know whether these problems existed in the past and might be associated with some aspect of traditional diet or lifestyle, or whether they are due to more recent nutritional and cultural changes (for example, the level of mercury in seal blubber today due to pollution).

Unlike popular low-carbohydrate diet books, Michelle's comments situated the Inuit firmly in the modern world. The 'Eskimos' Michelle described are not romantically pristine, nor blessed with unrealistically perfect health. Michelle acknowledged the problems of miscarriage and stillbirth, as well as the serious issue of contamination of the Arctic food chain with environmental pollutants (see Bjerregaard, Young, Dewailly, & Ebbesson, 2004, pp. 393-394). Undeniably, Michelle treated the 'Eskimos' and the Masai as research resources via which Westerners may learn more about nutrition. Her perspective was Eurocentric and implicitly hierarchical. She considered Stefánsson's research to be 'it' in terms of historical knowledge about Inuit health; there was no question that the Inuit themselves might have oral or written records regarding miscarriage and stillbirth rates in the early twentieth century. But Michelle questioned the romantic representation of Indigenous peoples such as the Inuit and the Masai as exceptionally healthy. In an implicitly feminist move, she suggested that a traditional Masai cultural practice of restricting women's food intake in the final stages of pregnancy may be inherently hazardous to infant and maternal health: 'I just don't see how they can be healthy when they do that to their pregnant women'. Notwithstanding its residual Eurocentrism, Michelle's approach disrupted the idealisation of so-called primitive people and their diet which underpins so much low-carbohydrate logic.

Other dieters also highlighted the vexed issue of uncertainty in our knowledge of the prehistoric past. As quoted in the subheading, Jessica pointed out that 'we can't go back a hundred million years'. Consequently, our knowledge of the prehistoric past will always be partial and provisional. This uncertainty confounds irremediably any attempt to define an 'evolutionarily appropriate diet'. Jessica criticised the reliance of the low-carbohydrate literature on 'just-so stories'. As Gard and Wright (2005, p. 109) explain,

> A "just-so" story is a story about the past that is invented in order to explain the present. Rather than being a story based on evidence, it is a story wheeled in "after the fact" to support an existing hypothesis; a hypothesis about a hypothesis as it were.

Taking her argument a step further than Michelle, Jessica questioned the relevance of appealing to evolutionary history when our real concern is nutrition. Instead of evolutionary 'just-so stories', Jessica appealed to science as the apolitical arbiter of nutritional knowledge:

> I think it's crucial that when looking at something like low carb that we depoliticise it and look at it in terms of more studies […] it's not about point-scoring as if we're in high school still, trying to […] win some argument as if it were a debating team, it's […] science and science has got to win out in the end [… If] low-carb ends up being proved to be, look it sounded like a great idea but then after ten years you […] drop dead […] and there's a scientific explanation for [why] that will happen, well I'm not holding the sacred cow if that turns out to be right […].

Sociologists of science, and scholars in science and technology studies, may well question Jessica's assumption that a depoliticised science is possible. However, they (and I) may share her scepticism regarding the validity and relevance of evolutionary appeals on matters of nutrition. Interviewee Sarah shared this scepticism. Like Jessica, Sarah appealed to science by reference to the 'nutritional qualities' and 'nutritious' components of food. She also displayed scepticism toward the discourse of Nature and naturalness associated with evolutionary nutrition, and criticised the determinism or prescriptiveness of evolutionary logic in relation to food choice. As she pointed out, a nutritious diet may come in many different forms. Many different foods may supply the same nutritional qualities. In Sarah's view, there is no inherent reason to prefer a food that has a long tradition of consumption over another that has equivalent nutritional value. Sarah joked that even her own taste has 'evolved over many millions of years', humorously underscoring the point that *any* feature of human physiology or behaviour may today be considered 'evolutionary', to the point that the concept has ceased to be helpful or explanatory.

Discussion

Amongst the dieters I interviewed, a few appeared to have 'swallowed' nutritional primitivism whole. For these people, it seemed to hold a peculiar appeal and logic. However, most interviewees performed what might be called 'para-critical' work on low-carbohydrate discourse, approaching nutritional primitivism critically and sceptically. Importantly, participants' practical commitment to low-carbohydrate dieting did not relate to their attitude to nutritional primitivism. There were long-term 'low-carbers' in all three groups discussed in this paper, including those who 'believed in' nutritional primitivism, but also those who were cautious or critical. In many cases, interviewees echoed points made in the critical scholarly literature on the obesity epidemic and

evolutionary nutrition (esp. Gard & Wright, 2005). Some dieters (such as Tracey) actively presented themselves as critical, sceptical, or even cynical in their reading and thinking. This tendency may derive from dieters' awareness that their choice of diet is highly controversial, and from their recognition that some (including feminist critics of dieting) may see them as medically naïve and 'desperate' (Spitzack, 1990, p. 22). By demonstrating that they have not 'swallowed' the low-carbohydrate text whole, dieters can resist their portrayal as 'cultural dupes'.

As noted, empirical research with readers has consistently found that they are 'active, producing cultural worker[s] who fashion […] narratives, stories, objects, and practices from myriad bits and pieces of prior cultural production' (Radway, 1988, p. 362). My findings show that this extends to readers of diet books, a form of popular non-fiction. This is not to deny that dieters replicated some of the troubling primitivist stereotypes and racist tropes from the low-carbohydrate literature and related sources. But participants also disrupted the romanticisation of the primitive and unquestioning reinforcement of evolutionary and genetic determinism that I have critiqued elsewhere in popular diet books (Knight, 2011b, 2012b). Across the interviews, dieters muddied discursively the black-and-white binaries of low-carbohydrate logic. Instead, participants highlighted (explicitly and implicitly) the complexity, uncertainty and conjecture that characterises our understanding of the prehistoric past, human evolutionary development, and cross-cultural disparities in health and weight.

The remarkable engagement of low-carbohydrate dieters with nutritional primitivism in my study suggests that further research on dieting should attend to the specific discourse (as well as recommendations) of different regimes. Even within my cohort of low-carbohydrate dieters, there were marked differences in beliefs. Further case studies of diet discourse are needed, as well as comparative research, to fully understand contemporary dieting. In this context, the overlap between weight-loss dieting and dieting for health deserves further illumination, perhaps especially in relation to low-carbohydrate and other diets that contest mainstream healthy eating advice. The desire to lose weight significantly motivated most dieters I interviewed, but 6 of 15 dieters identified health concerns (including chronic fatigue syndrome, chronic back pain, high cholesterol, type-2 diabetes and insulin resistance) as a primary or concurrent motivation.[6] One participant went on a high-protein, low-carbohydrate diet to build muscle to support a 'bad back'. She had been of normal, healthy weight before dieting, but nonetheless experienced unexpectedly significant weight-loss.

Although not my focus here, such findings also suggest that the association of low-carbohydrate (and Paleo) diets with weight-training and elite fitness programmes would bear much closer

[6] As with dieting duration and commitment, I found no evidence that interviewees' motivations for dieting related to their responses to nutritional primitivism.

investigation, including the gendered implications of this nexus. Moreover, with the increasing popularity of Paleo diets, further research is much-needed to explore the evident nutritional primitivism of this movement and its precise relationship to the low-carbohydrate movement. Since 2004, and especially since 2007, low-carbohydrate diets have declined in popularity and visibility, while Paleo diets have risen. The interviews drawn on in this paper were undertaken in 2006; consequently, it may be tempting to interpret my findings as part of a transition amongst low-carbohydrate dieters towards a Paleo model. However, there is currently insufficient evidence about the relationship between the Paleo and low-carbohydrate trends to make this case.

Conclusions

In this study, low-carbohydrate dieters engaged actively, critically and sceptically with the discourse of nutritional primitivism, albeit with some exceptions. Future research on low-carbohydrate dieting, and the related Paleo diet movement, should thus seek out and engage with the testimony of dieters, alongside analysis of diet texts and other documents. This engagement need not be in the form of face-to-face interviews. Online discussion fora are especially rich sources of publicly available testimony. The results of this research suggest a similar methodological imperative in the study of other diet and food movements, including those which have produced an extensive, highly visible and accessible body of published literature.

This is not to suggest that ideological critique of diet books and other sources of nutritional information becomes unnecessary or redundant. Although the majority of dieters I interviewed approached nutritional primitivism critically and sceptically, not all did. Some people evidently find certain problematic or troublesome cultural discourses peculiarly beguiling. Also, even those dieters who engaged critically with nutritional primitivism retained residual ideological traces, in the form of key concepts and vocabulary. Further research or critique of low-carbohydrate dieting must thus take into account its underlying primitivist ideology, including amongst dieters themselves. While I cautiously celebrate low-carbohydrate dieters' critical engagement with nutritional primitivism, I remain troubled that at least some dieters faithfully echo *Protein Power*'s rosy view of 'Eskimos' when asked to explain the connections between diet and health.

Acknowledgements

The interview study described here was funded by the Human Nutrition Division of the Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia. I would like to thank Professor Carlene Wilson and Dr Heather Kerr, who advised on research design, analysis and writing up; Dr Gill Haddow, Dr Isabel Fletcher and Dr Marisa Wilson, who provided feedback

on this manuscript; and the three anonymous reviewers, whose suggestions greatly strengthened the paper. I also gratefully acknowledge the contribution of my research participants.

Bio

Dr Christine Knight is Senior Research Fellow in Science, Technology & Innovation Studies at the University of Edinburgh. Her main research interest is contemporary food history and culture, focusing on nutrition and dietary advice. She currently holds a Wellcome Trust Medical History & Humanities Research Fellowship to investigate negative stereotyping of the Scottish diet. Science, Technology & Innovation Studies, University of Edinburgh, Chisholm House, High School Yards, Edinburgh EH1 1LZ, Scotland, UK (christine.knight@ed.ac.uk).

References

Agatston, A. (2003). *The South Beach diet*. London: Headline.

Atkins, R. C. (1972). *Dr. Atkins' diet revolution: The high calorie way to stay thin forever*. New York: D. McKay Co.

Atkins, R. C. (2002). *Dr. Atkins' new diet revolution*. New York: HarperCollins.

Audette, R. (1999). *Neanderthin*. New York: St Martin's Press.

Banting, W. (1864). *A letter on corpulence, addressed to the public* (3rd ed.). London: Harrison.

Belasco, W. J. (2007). *Appetite for change: How the counterculture took on the food industry* (2nd updated ed.). Ithaca & London: Cornell University Press.

Bell, M. (1972). *Primitivism*. London: Methuen.

Bentley, A. (2004). The other Atkins revolution: Atkins and the shifting culture of dieting. *Gastronomica, 4*(3), 34-45.

Bentley, A. (2005). Men on Atkins: Dieting, meat, and masculinity. In L. Heldke, K. Mommer, & C. Pineo (Eds.), *The Atkins diet and philosophy: Chewing the fat with Kant and Nietzsche* (pp. 185-195). Chicago & La Salle, Illinois: Open Court.

Bjerregaard, P., Young, T. K., Dewailly, E., & Ebbesson, S. O. E. (2004). Indigenous health in the Arctic: An overview of the circumpolar Inuit population. *Scandinavian Journal of Public Health, 32*, 390-395.

Blanck, H. M., Gillespie, C., Serdula, M. K., Khan, L. K., Galuska, D. A., & Ainsworth, B. E. (2006, April 5). Use of low-carbohydrate, high-protein diets among Americans: Correlates, duration, and weight loss. *Medscape General Medicine*. Retrieved from http://www.medscape.org/viewarticle/528758

Boero, N. (2007). All the news that's fat to print: The American 'obesity epidemic' and the media. *Qualitative Sociology, 30*, 41-60.

Bordo, S. R. (1993). *Unbearable weight: Feminism, western culture, and the body*. Berkeley: University of California Press.

Chernin, K. (1981). *Womansize: The tyranny of slenderness*. London: The Women's Press.

Cleave, T. L. (1974). *The saccharine disease: Conditions caused by the taking of refined carbohydrates, such as sugar and white flour*. Bristol: J. Wright.

Coleman, R. (2010). Dieting temporalities. *Time & Society, 19*(2), 265-285.

Cordain, L. (2001). *The Paleo diet: Lose weight and get healthy by eating the food you were designed to eat*. Hoboken, New Jersey: John Wiley & Sons.

Coyle, K., & Grodin, D. (1993). Self-help books and the construction of reading: Readers and reading in textual representation. *Text and Performance Quarterly, 13*(2), 61-78.

De Souza, P., & Ciclitira, K. E. (2005). Men and dieting: A qualitative analysis. *Journal of Health Psychology, 10*(6), 793-804.

Dufty, W. (1976). *Sugar blues*. New York: Warner Books.

Eades, M. R., & Eades, M. D. (1996). *Protein power*. New York: Bantam.

Feinman, R. D., Vernon, M. C., & Westman, E. C. (2006). Low carbohydrate diets in family practice: What can we learn from an internet-based support group. *Nutrition Journal, 5*(26). doi:10.1186/1475-2891-5-26

Gard, M., & Wright, J. (2005). *The obesity epidemic: Science, morality and ideology*. London: Routledge.

Germov, J., & Williams, L. (1996a). The epidemic of dieting women: The need for a sociological approach to food and nutrition. *Appetite, 27*, 97-108.

Germov, J., & Williams, L. (1996b). The sexual division of dieting: Women's voices. *Sociological Review 44*(4), 630-647.

Germov, J., & Williams, L. (1999). Dieting women: Self-surveillance and the body panopticon. In J. Sobal & D. Maurer (Eds.), *Weighty issues: Fatness and thinness as social problems* (pp. 117-132). New York: Aldine de Gruyter.

Gimlin, D. (2007). Constructions of ageing and narrative resistance in a commercial slimming group. *Ageing and Society, 27*, 407-424.

Gough, B. (2007). 'Real men don't diet': An analysis of contemporary newspaper representations of men, food and health. *Social Science & Medicine, 64*(2), 326-337.

Grodin, D. (1991). The interpreting audience: The therapeutics of self-help book reading. *Critical Studies in Mass Communication, 8*(4), 404-420.

Gunnarsson, A., & Elam, M. (2012). Food fight! The Swedish low-carb/high fat (LCHF) movement and the turning of science popularisation against the scientists. *Science as Culture, 21*(3), 315-334.

Heldke, L., Mommer, K., & Pineo, C. (Eds.). (2005). *The Atkins diet and philosophy: Chewing the fat with Kant and Nietzsche*. Chicago & La Salle, Illinois: Open Court.

Hession, M., Rolland, C., Kulkarni, U., Wise, A., & Broom, J. (2009). Systematic review of randomized controlled trials of low-carbohydrate vs. low-fat/low-calorie diets in the management of obesity and its comorbidities. *Obesity Reviews, 10*, 36–50.

Kenton, L. (2002). *The X factor diet*. London: Vermilion.

Kissling, E. A. (1995). I don't have a great body, but I play one on TV: The celebrity guide to fitness and weight loss in the United States. *Women's Studies in Communication, 18*(2), 209-216.

Knight, C. (2005). 'The food nature intended you to eat': Low-carbohydrate diets and primitivist philosophy. In L. Heldke, K. Mommer, & C. Pineo (Eds.), *The Atkins diet and philosophy: Chewing the fat with Kant and Nietzsche* (pp. 43-56). Chicago & La Salle, Illinois: Open Court.

Knight, C. (2008). *'The food nature intended you to eat': Nutritional primitivism in low-carbohydrate diet discourse* (Unpublished doctoral dissertation). University of Adelaide, South Australia.

Knight, C. (2011a). 'If you're not allowed to have rice, what do you have with your curry?': Nostalgia and tradition in low-carbohydrate diet discourse and practice. *Sociological Research Online, 16*(2). Retrieved from http://www.socresonline.org.uk/16/2/8.html

Knight, C. (2011b). 'Most people are simply not designed to eat pasta': Evolutionary explanations for obesity in the low-carbohydrate diet movement. *Public Understanding of Science, 20*(5), 706-719.

Knight, C. (2012a). 'An alliance with Mother Nature': Natural food, health and morality in low-carbohydrate diet books. *Food and Foodways, 20*(2), 102-122.

Knight, C. (2012b). Indigenous nutrition research and the low-carbohydrate diet movement: Explaining obesity and diabetes in *Protein Power*. *Continuum: Journal of Media & Cultural Studies, 26*(2), 289-301.

Knudson, S. (2013). Crash courses and lifelong journeys: Modes of reading non-fiction advice in a North American audience. *Poetics, 41*(3): 211-235.

Lewis, J. (2008). *Cultural studies: The basics* (2nd ed.). London: SAGE.

Lhuissier, A. (2012). The weight-loss practices of working class women in France. *Food, Culture & Society, 15*(4), 643-664.

Lichterman, P. (1992). Self-help reading as a thin culture. *Media, Culture and Society, 14*(3), 421-447.

Lieb, C. W. (1929). The effects on human beings of a twelve-month exclusive meat diet. *Journal of the American Medical Association, 93*(1), 20-22.

The low carb comeback – low carb food and drink products double over last five years. (2013). Retrieved October 14, 2014, from http://www.mintel.com/press-centre/food-and-drink/low-carb-food-and-drink-products-double

Mallyon, A., Holmes, M., Coveney, J., & Zadoroznyj, M. (2010). I'm not dieting, 'I'm doing it for science': Masculinities and the experience of dieting. *Health Sociology Review, 19*(3), 330-342.

McKinley, N. M. (1999). Ideal weight/ideal women: Society constructs the female. In J. Sobal & D. Maurer (Eds.), *Weighty issues: Fatness and thinness as social problems* (pp. 97-115). New York: Aldine de Gruyter.

Mitchell, P., & Mitchell, D. (1999). *Taming the dinosaur gene: For optimum lifetime performance*. Unley, South Australia: Davam.

Mol, A. (2013). Mind your plate! The ontonorms of Dutch dieting. *Social Studies of Science, 43*(3), 379-396.

Mouton, M. (2001). 'Doing Banting': High-protein diets in the Victorian period and now. *Studies in Popular Culture, 24*(1), pp. 17-32.

Nordmann, A. J., Nordmann, A., Briel, M., Keller, U., Yancy, W. S., Jr., Brehm, B. J., & Bucher, H. C. (2006). Effects of low-carbohydrate vs low-fat diets on weight loss and cardiovascular risk factors. *Archives of Internal Medicine, 166*, 285–293.

Orbach, S. (1978). *Fat is a feminist issue: The anti-diet guide to permanent weight loss*. New York: Paddington.

Parasecoli, F. (2008). *Bite me: Food in popular culture*. Oxford: Berg.

Price, W. A. (1939). *Nutrition and physical degeneration: A comparison of primitive and modern diets and their effects*. New York & London: P. B. Hoeber.

Probyn, E. (2003, October 1). Trick question delivers goods. *The Australian*, pp. 36.

Qazi, H. I. A., & Keval, H. (2013). At war with their bodies or at war with their minds? A glimpse into the lives and minds of female yo-yo dieters – The curtain has lifted in U.K.? *Journal of International Women's Studies, 14*(1), 311-332.

Radway, J. (1986). Reading is not eating: Mass-produced literature and the theoretical, methodological, and political consequences of a metaphor. *Book Research Quarterly, 2*(3), pp. 7-29.

Radway, J. (1988). Reception study: Ethnography and the problems of dispersed audiences and nomadic subjects. *Cultural Studies, 2*(3), 359-376.

Sears, B. (1995). *The zone: A dietary road map*. New York: HarperCollins.

Shapin, S. (2004). The great neurotic art. *London Review of Books, 26*(15), pp. 16-18. Retrieved from http://www.lrb.co.uk/v26/n15/steven-shapin/the-great-neurotic-art

Spitzack, C. (1990). *Confessing excess: Women and the politics of body reduction*. Albany: State University of New York Press.

Stefánsson, V. (1946). *Not by bread alone*. New York: MacMillan.

Stefánsson, V. (1956). *The fat of the land*. New York: MacMillan.

Stillman, I. (1967). *The doctor's quick weight loss diet*. Englewood Cliffs, New Jersey: Prentice-Hall.

Tarnower, H. (1978). *The complete Scarsdale medical diet*. New York: Rawson, Wade.

Torgovnick, M. (1990) *Gone primitive: Savage intellects, modern lives*. Chicago: University of Chicago Press.

Torgovnick, M. (1997) *Primitive passions: Men, women, and the quest for ecstasy*. New York: Alfred A. Knopf.

Wolf, N. (1991). *The beauty myth: How images of beauty are used against women*. New York: Anchor.

Wooley, O. W., Wooley, S. C., & Dyrenforth, S. R. (1979). Obesity and women ii: A neglected feminist topic. *Women's Studies International Quarterly, 2*, pp. 81-92.

Yudkin, J. (1972). *Pure, white and deadly: The problem of sugar*. London: Davis-Poynter.