Using Theory to Study Empirical Cases: Reflections on Using Habermas to Study Genetic and Reproductive Politics

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Abstract: Attempts to apply social theory to the study of empirical cases are too often reduced to treating theory as formula. Complex theoretical ideas are torn from the contexts of their production, selectively interpreted or even misinterpreted, and applied uncritically to empirical cases—regardless of the case. In this article, I will offer some reflections on the way that Jürgen HABERMAS' theoretical framework, suitably revised and supplemented, informed my own research. I discuss how Habermasian ideas acted as a guide or template, or set of "sensitizing concepts" (BLUMER, 1954, p.7) that shaped practical questions around research design, data collection and analysis. I conclude by offering some cautionary words of advice for those grappling with theory: although there are no blueprints or formula for straightforwardly applying social theory, researchers need to take their theory seriously and treat it with the same vigor and critical thinking skills as they do other aspects of their research.

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1. Introduction

Positivism is a view of science that follows the logic of BACON and MILL, and was developed later in the social sciences by COMTE and DURKHEIM, among others. It was argued by these and other positivists that logical and mathematical proofs are the only valid forms of proof, that positivist research is atheoretical and is driven purely by empirical problems (BLAIKIE, 2009). Theories follow-on from empirical facts, so the argument goes, and not the other way around (SISMONDO, 2010 [2004]). More commonly nowadays, it is generally accepted that preconceived ideas and theories cannot be, nor should they be, set aside in order to provide purely objective, or seemingly objective, observations. BRYMAN (1988) says that "[q]uite apart from the question of whether it is desirable to defer theoretical reflection, the notion that one may conduct research in a theory-neutral way is open to some doubt" (p.84). Most social scientists now recognize that empirical research depends on theory, at the very least, for specifying the objects of their analysis. After all, in the absence of theory, how else could we know what constitutes a class, a community or a religion (CALHOUN, GERTEIS, MOODY, PFAFF & VIRK, 2007)? [1]

Theory, in this context, can be understood as an interlinked set of concepts or propositions about the world that can help researchers define a research problem, guide solutions to that problem, and shape the way answers to the problem are interpreted. It is also a set of terms that helps researchers when "interacting with their empirical findings and with other researchers and readers" (LICHTERMAN & REED, 2015, p.588). Social scientists will often attempt to "apply" a theory by considering a specific empirical problem through the lens of that theory. The way this is achieved varies from researcher to researcher—with differing degrees of sophistication and success. Indeed, there are many competing views and much confusion about where, how and in what form theory should enter the research process (BLAIKIE, 2009). According to RULE and JOHN (2015, p.7),

> "theory infuses research in all its aspects, including the identification and selection of the case, the ethics and power dimensions of the case and its study, the formulation of research purposes and questions, the survey of literature, the collection and analysis of data, and the presentation and interpretation of findings." [2]

It is common, particularly for novice researchers and students embarking on their first projects, to enter the field with noble intentions and a genuine desire to study a given topic, but to have only vague or no firm theoretical commitments. On some levels, this is understandable and perhaps even excusable given the fact that many researchers find theory-work particularly difficult. For IQBAL (2007, p.17), for example, the struggle to identify and prepare a theoretical framework is the "most difficult but not impossible part of [a research] proposal." At the same time, a failure to think carefully about social theory does a disservice not only to any theories invoked but also to the empirical problems under investigation. [3]

In this article, I will describe how, revised and supplemented, the work of HABERMAS offered a novel and sophisticated theoretical vocabulary for thinking through some of the practical problems that I encountered in my own research into genetic politics and reproductive medicine. HABERMAS offers a template or set of "sensitizing concepts" (BLUMER, 1954, p.7) that, though not unproblematic, helped inform practical considerations of research design, data collection and analysis. These sensitizing concepts are derived from a critical engagement with HABERMAS' notions of "the public sphere" (1989 [1962] p.27), and later ideas such as "communicative" and "instrumental rationality" (1984 [1981], pp.403-404). [4]

I begin by describing the significance of HABERMAS to the given topic (Sections 2 and 3) and then show how his philosophical vocabulary helped shape my response to practical research problems (Section 4). I finish, however, by offering some cautionary words of advice (Section 5). Specifically, I caution against formulaic and uncritical applications of social theory to empirical problems and argue the need for researchers to take their theory as seriously as other aspects of their research. Two divergent trends in the application of theory will be problematized: a tendency to prioritize empirical study at the expense of theoretical rigor, on the one hand, and a tendency that allows theoretical orthodoxy to take precedent over empirical observation, on the other. The former approach sees social researchers uncritically accepting and applying theoretical models to empirical problems, regardless of the problem, without sufficiently explicating the contexts that gave rise to the theoretical model or the suitability of the model for the problem at hand. The latter allows theory to usurp data and can lead researchers to distort and misrepresent the reality on the ground. It is my contention that, although HABERMAS offers us a rich and varied theoretical vocabulary that enables us to think through a range of research problems, we should be wary of uncritical applications or trying to impose a theoretical vocabulary where it does not fit. There are no formulae or blueprints for straightforwardly applying HABERMAS, or any other social theoretician, that can be easily followed in every instance. [5]

2. Debating Genetic and Reproductive Medicine

The research conducted was an analysis and critique of conventional ways of portraying the genetic and reproductive sciences. From the Human Genome Project to so-called "three-parent babies," advances in these areas are occurring at a rapid pace. Barely a day passes without news of the latest research that appears to link our genetic make-up with health related states and conditions such as cancer, obesity, and heart disease, as well as more obviously social practices such as monogamy and fidelity, bullying or being bullied and sexual preference. Prenatal and genetic screening technologies are similarly transforming the delivery of reproductive health services. Until the late 1980s, the main tests available were designed to detect neural tube "defects" (such as spina bifida) and Down syndrome. Currently, using the latest generation of screening techniques, called preimplantation genetic diagnosis and preimplantation genetic

haplotyping[1], it is reportedly possible to test for more than 6,000 different impairments, diseases and conditions (SAMPLE, 2006). [6]

As HABERMAS (2003a [2001]) has observed, however, the speed of scientific and technological innovation often moves forward more quickly than the processes of forming a political consensus. There remains considerable political debate around these developments and "the yuck factor" looms large. There are widespread fears about scientists "playing God." The specter of eugenics also lingers in the public imagination and there are fears of a "brave new world" and "designer babies" (DUSTER, 2003; KERR, 2004; KERR & SHAKESPEARE, 2002; KOCH, 2006). [7]

It is in this context that I embarked upon research into the politics of genetics and reproductive medicine. I was specifically interested to study and critique the conventional ways of representing dialogue in this area as inevitably dichotomous: as an irreconcilable battle between science versus faith, reason versus dogma, with all scientists lined up on one side and all religious or faith groups on the other. KERR (2004) and others (FRANKLIN, 1995; PARRY, 2003; WILLIAMS, KITZINGER & HENDERSON, 2003) have argued that this polarized representation contains a number of misleading suppositions, not least because it undermines the complexity and heterogeneity of the debates that are actually taking place. [8]

3. HABERMAS

HABERMAS, one of the most important social theorists of the second half of the twentieth century, stood out as being particularly relevant to this research. His vast output has entailed thinking through and synthesizing in an original fashion several theoretical trends, from analytic philosophy and systems theory, to neo-Kantianism and pragmatism. By far the most important influence on HABERMAS, however, is the broadly Marxist tradition that inspired the first generation of Frankfurt School critical theorists: Theodor ADORNO, Max HORKHEIMER, and Herbert MARCUSE, among others. Specifically, HABERMAS shares with ADORNO and HORKHEIMER a "substantive preoccupation with the way in which enlightenment, in the form of instrumental rationality, turns from a means of liberation into a new source of enslavement" (OUTHWAITE, 1994, p.6). [9]

A major contribution of HABERMAS' project is his notion of "the public sphere," which is understood as a sphere in which "private people come together as a public" (1989 [1962], p.27). In other words, it is a realm composed of individuals whose social interconnectedness transcends their personal interests (SUSEN, 2011). The bourgeois public sphere that HABERMAS describes in "The Structural Transformation of the Public Sphere" (1989 [1962]) is a sphere independent of the church, state and sectional interests, and can be traced through the rise of several historical precedents: the world of letters, the coffeehouse salon, the

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1   Preimplantation genetic haplotyping is a clinical procedure used, alongside *in vitro* fertilization technologies (IVF), to diagnose single gene "disorders" in an embryo prior to implantation in the womb.

weekly and the novel, the library, the newspaper, and so forth (OUTHWAITE, 1994). In these examples, private individuals were given access to forums for discussion of issues of public life in a relatively free and independent fashion. [10]

In HABERMAS' (1989 [1962]) account of the public sphere there emerges a normative template for social and political discussion that is based on openness and reciprocity, free of social and political pressures, and in which participants enter into deliberations with each other on the basis of a shared understanding that their aims and ambitions are reasonable and merit-worthy. HABERMAS later developed this idea (1984 [1981]) and coined the phrase "communicative rationality" (p.49)—the pursuit of shared or individual goals that are entered into based on a reciprocal understanding that these goals are worthwhile. This "communicative rationality" is less a description of actually existing political discussions than an ideal after which people can strive and a heuristic tool against which counterfactual examples can be measured. It is a normative template for egalitarian deliberation, showing how HABERMAS believes social and political deliberation ought to be. [11]

HABERMAS recognizes that the egalitarian potential of communicative rationality was never fully realized in the bourgeois public sphere. This is because, soon after its creation, the bourgeois public sphere came to be increasingly encroached upon by "instrumentally rational action" (p.404)—actions pursued in the absence of mutual agreement. Instrumentally rational actors are less concerned with reciprocity than with achieving their own goals—often to the detriment of other goals. For instance, as discussed below, HABERMAS sees instrumental rationality in the genetic and reproductive sciences, with the possibility of a parent or genetic creator "acting according to [their] own preferences" (2003a [2001], p.87) irreversibly setting in motion the life contours and identity of another person by altering their genetic composition "without even the possible assumption of counterfactual consent" (ibid.). Instrumental rationalization can also be seen, for example, in cases where educational institutions become governed by market strategies or when "law comes to invade more and more areas of social life" (BOHMAN & REHG, 2014 [2007], n.p.). [12]

The normative nature of HABERMAS' philosophy is further reinforced by his notion of "the ideal speech situation (2001 [1971], p.97). HABERMAS supposes that, under ideal circumstances, meaningful deliberation over issues of public life would be open-ended and unconstrained, all speakers would have equal access to contribute and only "the force of better argument" prevails (HABERMAS, 1984 [1981], p.82). This idealized situation, for HABERMAS, would also involve the "demolition of systematic obstacles to understanding" (OUTHWAITE, 1994, p.39) such as sectional, economic or class interests. Clarity, objectivity and transparency are therefore considered prerequisites of rational discussion. Vulgarities, obscenities and ideological influences ought to be cast aside as rational discussion has "a normative requirement that relevant issues, required information, and appropriate contributions be mobilized" (HABERMAS, 2006, p.418). This ideal speech situation is another hypothetical construct and HABERMAS recognizes that actual speech rarely, if ever, corresponds with it. It

is, however, a potentially useful heuristic tool, which, as will be discussed below, can be used by social researchers to critically evaluate the processes of political deliberation and counterfactual examples. Not only was HABERMAS therefore useful and relevant to my research because of his ideas about communication, debate and deliberating issues of public life, he has also published a monograph that applies his thinking to the philosophical and ethical issues raised by genetic and reproductive medicine, titled "The Future of Human Nature" (2003a [2001]). [13]

The originality and complexity of HABERMAS' thinking about the genetic and reproductive sciences are nicely encapsulated in the following quotation, in which he reflects on the hope and hype invested in the prospective reproductive technologies of the future:

> "Whether these speculations are manifestations of a feverish imagination or serious predictions, an expression of displaced eschatological needs or a new variety of science-fiction science, I refer to them only as examples of an instrumentalization of human nature initiating change in the ethical self-understanding of the species—a self-understanding no longer consistent with the normative self-understanding of persons who live in the mode of self-determination and responsible action" (p.42). [14]

HABERMAS' vocabulary here requires explanation. An enduring theme in the Habermasian project is the idea that social and cultural traditions are passed on through generations of people in the unfolding of intersubjective relations (that is, through dialogue and social intercourse or, in "The Future of Human Nature," through "intergenerational relations" and "the conventional relationship of social parenthood and biological descent" [p.16]). Key to this idea is HABERMAS' conception of "communicative rationality" (1984 [1981], p.49), discussed above. In the above quotation, and elsewhere in the book, HABERMAS extends this philosophic idea to the intervention of genetic technologies on intergenerational relations. His thesis is that individuals should be able to regard their own embodied existence (their "self-understanding as a species" (2003a [2001], p.16) as undetermined, and not something which has been deliberately imposed on them by previous generations, not even by parents exercising their own free will or choice. [15]

The notion of reciprocity is considered particularly important for HABERMAS. It is this that makes a rational action "communicative" and not "instrumental" (HABERMAS, 1984 [1981], pp.403-404). The difference between the socialization of life (for example, encouraging a reluctant child to attend piano lessons) and genetic creation is, HABERMAS acknowledges, "in a single attributable act" (2003a [2001], p.64). In the context of genetic creation, however, acts of this kind deny the possibility of reciprocity or critical re-appraisal by the created. The child that is produced "may [be able to] interpret, but not revise or undo this intention" (p.62). With this Habermasian critique in mind, NEWMAN (2003, p.458) has likened genetic creation to the "commissioning of castrati by eighteenth century kapellmeisters." HABERMAS thus objects to the potential enslavement of future generations to the "genetically fixed intentions" of the living (2003a [2001], p.62). This absence of intergenerational reciprocity, he believes, constitutes an

instrumentalization of life which has the potential to irreversibly alter our self-understanding as a species. [16]

4. Applying HABERMAS in My Own Research

Habermasian ideas were not applied post-hoc to data that were already collected. They acted, revised and supplemented with the work of other theorists, more as a set of "sensitizing concepts" (BLUMER, 1954, p.7) which provided "a context of ideas, or theoretical framework, that was the source of the focus and direction for the research" (BLAIKIE, 2009, p.162). A sensitizing concept, for BLUMER (1954), "gives the user a general sense of reference and guidance when approaching empirical instances" (p.7). In my own research, Habermasian sensitizing concepts provided a language and way of thinking that informed the research design, the collection of data and how the data were analyzed. [17]

4.1 Research design

To study the obstacles and potentialities for political discussion over genetic and reproductive medicine, as I had been inspired to do at least in part through engagement with the work of HABERMAS, it was necessary to study the processes of political discussion and debate on these topics over a sustained period. One to one interviews, discussed below, would only provide me with a series of snapshots and not give me the necessary insight into the processes of discussion and debate. One of the best, and certainly the cheapest, method of studying debate and discussion over time is to conduct what is now known as a "netnography" (KOZINETS, 2009). By collecting data online, in theory, I was able to transcend the boundaries imposed on me by time, space and geography (FIELDING, LEE & BLANK, 2017), and thus makes it logistically much easier to evaluate the potential for conflict, consensus and change between a diverse range of individuals over time. [18]

Data collected online was also relevant because there are many websites that play host to and archive vibrant debates on the topics of this research. Wikipedia, I felt, was worthy of specific investigation because its aims are to aggregate knowledge through discussion. The online encyclopedia attempts to crowdsource knowledge by allowing anyone with access to the internet to create and edit encyclopedia articles. This results in wide ranging discussions on literally millions of topics and a complete archive of those discussions, rich with data from computer users all across the world and from a range of different backgrounds, perspectives and experiences; all coming together to collaborate in pursuit of a shared goal: creating and updating an encyclopedia. Wikipedia therefore thrives on the cacophonous dialogue that takes place between hundreds of thousands of computer users and the claims to knowledge that these users contribute (CIMINI, 2010, CIMINI & BURR, 2012). The collaborative writing process forces individual users to reach a shared understanding with hundreds, if not thousands of others, and in the process to be accountable for what they say and be able to justify their claims under testing from others. [19]

It could also be argued, from a Habermasian perspective, that the popularity of Wikipedia represents a rebellion against many of the instrumental rationalities of science today: from the prohibitive cost of traditional encyclopedias and the paywalls around academic journals and other scientific output; to the ways in which scientific research and the dissemination of scientific knowledge are increasingly oriented to the pursuit of profit or other easily identifiable and narrow, short-term goals such as vague notions of research impact. Wikipedia, by contrast, is a non-proprietary, non-profit organization and free to all internet users. [20]

For these reasons, many commentators have drawn parallels between online forums like Wikipedia and some of HABERMAS' ideas about the public sphere. One of the earliest of these was RHEINGOLD's book "The Virtual Community" (1996), in which he outlines his self-professed "utopian vision" (Introduction) of the internet as an "electronic agora" (Introduction) with emancipatory potential— akin to the salons and coffee houses of HABERMAS' "The Structural Transformation of the Public Sphere" (1989 [1962]). More recently, HANSEN, BERENTE and LYYTINEN (2009) studied the contents of three Wikipedia articles (on the Armenian genocide, ethanol fuel and intellectual property) and argued that "consistencies with Habermasian theory are evident" (p.38). Namely, the editors of Wikipedia volunteer their time and individual efforts in the pursuit of mutually agreed goals, and within a framework of conditions initiated and governed by the volunteers themselves, independently of the state, church and sectional interests. It will be necessary to return to these attempts to apply HABERMAS to the internet later in this article. [21]

In the design of my research, I therefore took inspiration from HABERMAS to collect a particular type of data: longitudinal data in which individuals from a range of different points of view debate and discuss with each other over a sustained period. These individuals do so under conditions that some commentators have noted broadly appear to approximate Habermasian rational speech: entering into a shared pursuit in which collective understandings are sought through deliberation and debate. This therefore seemed like a novel and interesting vantage point from which to study genetic and reproductive politics. By systematically studying contributions to a range of topic-related Wikipedia articles —for example, those on "genetics," "eugenics," "disability," "stem cells," and so forth—I would be able to explore both dominant and typically marginalized perspectives towards genetics and reproductive politics, and look to see how these different perspectives interact, clash and shape each other. [22]

4.2 Data collection

Netnographic data were therefore collected from Wikipedia by maintaining a database of interesting or controversial edits to health and genetics related articles and their associated discussion pages, including the content of individual user-pages and pages for debating Wikipedia policy, over a period of seven years from the inception of the website in 2002 to the time of first writing-up the research in 2009. The "history" tab on each Wikipedia page provides users with a complete history of all contributions to the article and the "comments" tab provides users with a space to discuss article changes. These functions allow users to refine the information as time passes and iron out any abuses of the system. They also provided me with a wealth of rich and complex data. [23]

I therefore began by identifying a range of Wikipedia articles relevant to the research and which I felt were deserving of systematic study articles (with those on "eugenics," "stem cell," and "Down syndrome" being among the most frequently edited and thus closely observed). To give an example of the scale of this endeavor, from 2002 to the end of 2009, by the time this research was first written-up, the Wikipedia article on Down syndrome alone had been edited on 5,394 occasions—with an average of 1.4 edits per day. A significant proportion of these (39.8% in 2009) were classified by users of the website as "minor edits" and included activities such as fixing dead weblinks, changing the formatting of the text, and correcting spelling mistakes. I typically did not consider edits of this nature to be noteworthy or worthy of documenting. [24]

I considered edits to be worthy of documenting when, for example, they provoked debate or discussion among Wikipedia editors. I documented substantive changes in the content of articles, including both changes that were hotly contested and those that went unopposed, and changes that echoed with the themes observed in the literature. [25]

The encyclopedia article's opening definitions proved a particularly valuable source of data. These are often among the most debated of contents in an article and the changes made to a definition can act as a sensitive index of wider changes in an article's substance and tone. The definitions given of "Down syndrome," for example, could change in tone from it being represented primarily as a medical problem at one moment, to a social and civil rights issue, the next (CIMINI, 2010). [26]

I was also interested to document edits that echoed, reinforced or subverted some of the conventional ways of representing dialogue in this area: as a typically dichotomous and irreconcilable divide between science versus religion, reason versus faith. Hence, with the article on "stem cell," for example, I was particularly interested to see how self-proclaimed expertise and ad-hominem arguments were invoked to combat a perceived religious influence over the content of the article (CIMINI & BURR, 2012). [27]

I therefore documented the changes made by the editors involved in such
discussions and observed how such debates were settled or fizzled out over time.
This element of the data collection process resulted in a detailed list of what I
considered notable changes made to a range of topic specific Wikipedia. I
produced my own summary reflections on these notable changes and retained
the web-links to the original context for each piece of data. [28]

In addition to this netnographic data, I also used convenience sampling to
conduct eighteen one-to-one interviews as part of this research. Six of these
interviews were electronic interviews (or "e-interviews") and the remainder were
face-to-face. Authors such as IRVINE, DREW and SAINSBURY (2013),
OPDENAKKER (2006) and STURGES and HANRAHAN (2004) have compared
the advantages and disadvantages of different types of both face-to-face and
remote interviewing techniques, and others have written more specifically about
the benefits of conducting e-interviews (BAMPTON & COWTON, 2002). The e-
interviews I conducted were asynchronous conversations over e-mail with six of
the most regular or provocative contributors to the chosen Wikipedia articles. I
approached these interviewees, and other Wikipedia editors who either did not
respond to my invitation or did not wish to be interviewed, through the website
itself. Editors can be contacted through their individual user pages. To
supplement this electronic data, face-to-face interviews were conducted with
twelve other people who did not contribute to the editable encyclopedia but who
had some other interest in the topic: scientists and bioethicists working in the field
of genetics who I recruited through my own university, parents who had made
significant reproductive decisions who I recruited through the blogosphere, and
disabled people who I recruited through a research network at my own university
devoted to disability studies scholarship. These were semi-structured interviews
in which I asked several predetermined and open-ended questions, to produce
qualitative data that allowed for some comparisons to be made between
interviewees, alongside unique and sometimes improvised questions tailored to
each interviewee. This is a style of qualitative interviewing that is recommended
by RUBIN and RUBIN (2005 [1995]), among others (EZZY, 2010; JACOB &
FURGERSON, 2012), on the grounds that researchers will have specific topics
that they wish to explore and yet the flexibility provided allows interviewees a
meaningful opportunity to shape the data according to their own concerns. Ethical
approval for the research was obtained from the University of Sheffield and
written consent was obtained from all interviewees. [29]

Though I had a topic guide to facilitate the interviews, I adopted a flexible
approach to collecting all these data. I was not so much interested in following a
strict protocol or seeking to reach a designated endpoint. Instead, a greater
emphasis was placed on allowing the data to unfold according to the dialogue
observed and by allowing the Wikipedia editors and interviewees to define the
topics on their own terms. I was inspired by social theory to look at specific types
of data and to think in particular ways about what I observed, but I was always
open to the possibility that the theories invoked might not explain or be
contradicted by the empirical phenomena under investigation. [30]

Data saturation was achieved by following up data collected from Wikipedia with questions for the participants in the interviews—and these two methods of investigation tended to be closely related, feeding into each other. WHYTE (1984; cited in MAY, 2001 [1993]) discusses how observational data can provide us with a guide to the important questions we want to ask in interviews, and interview data can help us decipher what is happening in our observations. This combination therefore resulted in a rich and novel set of data on the topic of reproductive politics. The data reveal many of the most contentious issues at stake, the methods of argumentation or persuasion utilized, and processes of interaction and change over a given period. It allowed me to closely observe the often-fierce debates that take place in relation to genetic and reproductive politics and gave some clues as to how these debates can be settled. [31]

4.3 Research analysis

Not only did the work of HABERMAS act as an inspiration when it came to research design and collecting particular types of data, his ideas about the public sphere, communicative and instrumental rationality, were also reference points for considering how to make sense of and analyze the data. [32]

Though not without problems, discussed below, the normative element to HABERMAS' thinking was particularly important. In the case of HABERMAS' normative assumptions about political discussion and debate, he believes meaningful debate should be based on openness and trust, free from social and economic pressures, and entered into on a reciprocal basis. He also believes that, in the interests of achieving rational debate, only "relevant issues, required information and appropriate contributions" (2006, p.418) be mobilized and that vulgarities, obscenities, and grotesque speech be cast aside as hindrances to rational debate. [33]

These normative assumptions can be used as a heuristic tool or prototype for the testing of empirical reality. This is not too dissimilar to what FUCHS (2014, 2016) did, for example, in his various attempts to apply Marxist theory to study the internet and information-communication technologies. He read MARX and debates between subsequent Marxists, identified and elaborated on relevant Marxist concepts (the labor theory of value, commodification, alienation, ideology, and so forth) and invoked these to investigate and critique specific empirical developments in the digital world. Theory and historical precedent informed FUCHS' analysis and guided him to ask particular questions of the empirical topics under investigation, but he did not have prefabricated answers to these questions and anticipated that "a new contribution to theory construction will emerge from the analysis" (2017, p.44). [34]

Likewise, HABERMAS' ideas about the public sphere and communicative rationality shaped how I thought about the empirical data and guided me to ask particular questions of it. Hence, the analysis involved attempting to identify instances of online interaction that showed, or appeared to show, communicative rationality. Therefore, when analyzing the interviews and Wikipedia data I was

interested in asking some of the following questions: to what extent do the data conform with HABERMAS' theoretical ideas about rational speech? Does it appear that interlocutors enter into dialogue with a shared understanding that their objectives are worthwhile? What methods of argumentation and persuasion are utilized when they discuss reproductive politics? Are they engaging with "relevant issues, required information and appropriate contributions" (2006, p.418)? Or else, do they mobilize vulgar, obscene and grotesque speech? To what extent are these obstacles to a meaningful dialogue? Finally, when the data do not conform with HABERMAS' normative template, what does that tell us about the data and about his theory? [35]

In practical terms, the analysis involved coding the data using both manual and computer assisted techniques with these and related questions in mind. The coding, development of research concepts and analysis unfolded in a semi-iterative fashion—somewhat akin to the way a thematic analysis is conducted (BRAUN & CLARKE, 2006; NOWELL, NORRIS, WHITE & MOULES, 2017). BRAUN and CLARKE's (2006) guide to conducting thematic analysis involves the following: familiarizing yourself with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes and finally, producing the report. [36]

After reading the interview transcripts and Wikipedia data several times, each piece of data was given a code (or sometimes multiple codes) that attempted to classify the data and group them by theme. For instance, I used words such as "debate" to code and group data that reflected tensions between Wikipedia editors. I subsequently further categorized examples of debate with codes such as "evidenced argument," "evidenced rebuttal," "diplomatic response," "conceding ground," "agreement," and sometimes also "grotesque" and "vulgar" to code instances of bad or offensive language. I also coded for "ad-hominin arguments," "claim to expertise," and "straw man" to classify and group other styles of persuasion or argumentation. [37]

Data could be given multiple and overlapping codes. For example, certain pieces of data might be demonstrative of styles of argumentation or debate and so I would code for this accordingly whilst also coding these same data according to themes raised in the literature ("eugenics," "reproductive choice," "religion," etc..). [38]

Writing-up the analysis involved the reporting on the themes that emerged from empirical cases, "thick description" of the context to these cases (GEERTZ, 1973, p.3)—who said what, where and in response to whom—and analytic probing into their character with references to relevant academic literature. Habermasian theory therefore influenced the questions I asked of the data, the answers sought, and the way in which the findings were interpreted. [39]

5. Problems With Applying Social Theory

In this final section, I would like to offer some cautionary words of advice to those seeking to apply social theory. Specifically, I will caution against two divergent trends that exist in attempts at applying theory: a trend to prioritize empirical study at the expense of theoretical rigor, on the one hand, and a trend that allows theory to skew empirical observation, on the other. I will take each of these two distinct trends in turn, providing examples with reference to HABERMAS and the broadly Marxist tradition to which he belongs, before concluding the paper. [40]

5.1 Prioritizing empirical study at the expense of theoretical rigor

The prioritizing of empirical study at the expense of theoretical rigor takes many forms. In this section, I will explore three manifestations of this: cursory and uncritical applications, fetishistic applications and what I shall call pick 'n' mix applications. [41]

5.1.1 Superficial and cursory engagements with theory

First, prioritizing empirical study at the expense of theoretical rigor often manifests itself in superficial or cursory engagement with theory. Theory, in this context, is an afterthought or almost incidental. It is an awkward and difficult distraction from the complex business of empirical study. Many such superficial attempts at applying theory will offer genuinely reflexive insights into research methods, the limitations of the findings, and so forth, but the theories underpinning such analysis receive short shrift. Superficial or cursory engagement with theory often leads to "uncritical application in contexts that are unsuitable or where the theory requires substantial recontextualization in order to be applied effectively. An associated danger is that the context from which the theory arises is ignored" (RULE & JOHN, 2015, p.2). [42]

There are specific problems with HABERMAS' theory that should preclude superficial and cursory applications, and which need to be considered by those engaging with his thought. For example, any attempt to apply HABERMAS' concept of the public sphere requires careful consideration. HABERMAS' development of this concept in "The Structural Transformation of the Public Sphere" (1989 [1962]) is a historically specific and limited account of the public sphere (FRASER, 1990; SUSEN, 2011). It is an account specifically of "the liberal model of the bourgeois public sphere" (HABERMAS 1989 [1962], p.xviii) and not a transhistorical concept that can be straightforwardly applied across a broad range of contexts. Related to this, Marxist critics of HABERMAS, such as NEGT and KLUGE (2016 [1972]), have argued that HABERMAS is insufficiently critical of the bourgeois public sphere and fails to consider the prospects for promoting an alternative, proletarian public sphere. The same principle should be heeded when seeking to apply his other concepts: these are concepts that were developed at a particular time, in response to specific debates, and often in reference to unique phenomena. [43]

Further, HABERMAS' own philosophical positions have changed and, in some senses, matured over the course of his life. Most remarkably, his attitude toward religion has evolved from one of unflinching skepticism in the 1960s to expressing admiration and having intimate dinners with Pope Benedict XVI in the new millennium (RATZINGER & HABERMAS, 2006 [2005]). His basic philosophical assumptions have also evolved from being a neo-Kantian inspired anti-realist to proposing what he now calls a "pragmatic epistemological realism" (HABERMAS, 2003b [1999], p.7). Where once he sought to downplay and deny the possibility of an objective reality existing independently of how it is perceived, committing what BHASKAR (1975) calls an "epistemic fallacy," he now suggests instead that a claim to truth about the world is indeed true, if it accurately represents actually existing objects and states of affairs. When applying HABERMAS' ideas, therefore, the precise elements of the ideas need to be clearly explained and caveats, corrections or clarifications put in place. [44]

5.1.2 Fetishistic applications of theory

Second, another way in which empirical study is prioritized at the expense of theoretical rigor is to use the precise same theory or theorist and often the same methods and methodologies universally across all topics—regardless of the topic. Theoretical propositions and concepts are therefore fetishized, torn from the contexts of their production and given an inordinate ability to explain a range of broad phenomena. Theory is treated as having transhistorical, almost transcendental, powers and not understood for what it is: a product of social interactions, developed under specific conditions, in response to particular debates. This approach to research is, according to GRAMSCI, "a strange delusion which has little to do with science" (1971, p.439). In his criticisms of BUKHARIN, GRAMSCI (1971) argued a need for researchers to develop and elaborate specific research strategies, designs, and methods. Hence, on this view there are no blueprints or formula for straightforwardly applying HABERMAS, or any other theorist, across each and all contexts. Every research endeavor is required to have its own unique design, test its own propositions and concepts, and these will crucially depend on the research questions being asked. The way social theory features in this mix cannot be taken for granted. [45]

5.1.3 The "pick 'n' mix" approach to applying theory

Third, and finally, although researchers like KELLE (2007) have argued that a wide array of sensitizing concepts can be taken from differing theoretical traditions to develop empirically grounded conclusions, another common problem, particularly for many novice researchers, is to take an approach of extreme eclecticism to social theory—it might be called a "pick 'n' mix approach"—in which researchers mechanically and unthinkingly apply a broad range of sometimes contradictory theories or theoretical ideas to a given problem. Hence, there are attempts to uncritically and unproblematically combine concepts derived from modernist with postmodernist thinkers, critical realist with anti-realist, and conservative with socialist. It is also common for these discussions of theory to read like a who's-who of fashionable thinkers, who are stored away unchanged in

the researcher's filing cabinet and accessed whenever it appears opportune: BOURDIEU is referenced to explain interviewees' cultural preferences and taste; BECK to explain their perceptions of risk; LYOTARD, their incredulity towards authority and metanarratives; LACAN, their subconscious desires; FOUCAULT; GIDDENS; SAID; ŽIŽEK; BUTLER and so on. This is often done without any recourse to the contexts of the theories in question, the limitations of the theories, the exchange of ideas between these thinkers, or their coherence or suitability for being combined as a consistent theoretical model. The ideas of the thinkers invoked are thus blunted, confused and made absolutely malleable. [46]

5.2 Theoretical orthodoxies

Where on the one hand there is a tendency among some of those seeking to apply theory to prioritize empirical study at the expense of theoretical rigor, there is among others an unflinching obedience to theoretical orthodoxies. Though a social theory can act as a lens through which a researcher views society, a theory that is immune to falsification and fails to develop and change in response to changing empirical circumstance is mere dogma; bound to result in misleading interpretations of the topic under investigation. [47]

Theoretical models are too often allowed to usurp the empirical facts on the ground, to the extent that reality itself is distorted and misrepresented. This was a problem that MARX himself was acutely aware of, and for which he criticized SCHELLING (LIEDMAN, 2018 [2015]), but it was a problem that was to plague many generations of subsequent Marxists. Stalinists and many self-proclaimed "orthodox Trotskyists," despite the "whole river of blood" that separated them (TROTSKY, 1990 [1937]), both frequently attempted to squeeze reality into their vast and elaborate theoretical models. The many contortions of "Stalinist science" are well noted: Lysenkoism, Marrism, and dialectical materialism, to name but the most well-known of these (GRAHAM, 1994). From a different perspective, orthodox Trotskyists also allowed their theoretical commitments to distort their interpretation of reality (CLIFF, 1999; DAVIDSON, 2014; MacINTYRE, 2008). Following comments that TROTSKY made in the 1930s, many orthodox Trotskyists predicted that the end of WWII would be akin to the end of WWI in the sense of bringing about a wave of revolutions and class struggles across the globe. This, they predicted, would also bring an end to the Stalinist bureaucracy that ruled Russia. When, in 1945, this failed to materialize, many orthodox Trotskyists came to believe that WWII had not in fact ended. Some continued to believe this into the 1960s. According to MacINTYRE (2008), "[orthodox Trotskyism] transformed into abstract dogma what Trotsky had thought in concrete terms at one moment in his life and canonized this" (p.275, see also DAVIDSON, 2014). This canonization required adherents to revise reality so that it corresponded with their theory. [48]

A similar problem often occurs to those researchers seeking to apply HABERMAS to the internet. RHEINGOLD's (1996) vision of the internet as an electronic agora, for example, seriously underestimates the instrumental rationalities of the digital world: corporate control online and the concentration of

power into the hands of relatively few multinational companies, online surveillance and censorship, targeted advertising, tracking, hacking, phishing, spamming, and so forth. HANSEN et al.'s (2009) description of Wikipedia as "approximating the conditions of an ideal speech situation" (p.42) is also forced to ignore the fact that Wikipedia thrives on the cacophony of multiple and often seemingly irrational and grotesque voices (CIMINI & BURR, 2012). As FUCHS (2014) has argued, these various attempts at applying HABERMAS to understand the internet have tended to idealize the internet and have failed to consider political economy. They have allowed their commitment to Habermasian ideals to distort their interpretation of what happens online. [49]

In some senses, despite his own concern for political economy, it is HABERMAS' normative theorizing itself that sets a trap for researchers making this mistake. HABERMAS' commitment to idealized and abstract pronouncements about how society ought to be makes it particularly easy for those applying his thinking to equivocate when it comes to judgements about empirical phenomena (ANDERSON, 2007 [2005]). Hence, researchers seeking to apply HABERMAS, and indeed those seeking to apply any other social theorist, would do well to heed a saying attributed to ARISTOTLE (cited in CLIFF, 1999, n.p.): "Plato is dear to me, but dearer still is the truth." [50]

6. Conclusion

In this article, I have referred to three of HABERMAS' key ideas (the public sphere, instrumental and communicative rationality) to show how Habermasian philosophy acted as a sensitizing schema or template for allowing me to think through a number of practical problems associated with my research. First, there is his description of the bourgeois public sphere as a historically specific realm of relatively free and independent discussion. Second, we have instrumental rationality, which can be understood as the pursuit of any action, or outcome that is achieved in the absence of mutually agreed or reciprocal understanding. Third, finally, and in contrast with instrumental rationality, we have communicative rationality which can be understood as any individual or shared endeavor that is entered into on the mutually agreed basis that this endeavor is rational and merit-worthy. [51]

With the development of these ideas, HABERMAS offers us a range of analytic concepts and a rich theoretical vocabulary for thinking through certain research problems. HABERMAS was useful and relevant to my research into genetic politics and reproductive technology, not only because of his book (2003a [2001]) on the subject, but also because these Habermasian ideas spoke to my research questions and allowed me to consider communication, debate and norms for deliberating issues of public life. Namely, a critical engagement with HABERMAS gave me a philosophical vantage point from which to evaluate, and the tools to make sense of, the processes of political discussion, disagreement and persuasion when it came to the politics of the genetics, disability and reproductive technologies. [52]

It was through a critical engagement with HABERMAS, supplemented with not too dissimilar thinkers, that I was encouraged to collect longitudinal data in which a diverse group of individuals interact and debate with each other issues of public life. Though not without problems, HABERMAS' normative ideas about rational communication also acted as a heuristic tool or prototype for allowing me to think about empirical reality. It allowed me to consider how, if at all, debate around reproductive technologies conformed with Habermasian ideas. Particularly important here was his suggestion that rational communication ought to involve only relevant issues, required information, and appropriate contributions. [53]

At the same time, however, I have also highlighted problems with the way that social researchers often attempt to apply social theory. I cautioned against uncritical and formulaic applications of social theory, the prioritizing of empirical study over theoretical rigor and an unflinching commitment to theoretical orthodoxies. [54]

This is not an argument for disregarding and rejecting Habermasian theory, or the attempt to apply other social theories, in toto. Instead, it is an argument for researchers to take their theory as seriously as they do other aspects of their research. They need to understand and critically reflect on the theoretical concepts they invoke, consider the origins of their concepts, and the suitability and limitation of the concepts for the problems being considered. A failure to take theoretical concepts seriously does a disservice to both the theories invoked and the empirical data. It also dooms researchers to the endless repetition of seemingly unconnected researches into the empirical world—since it is theory that allows social researchers to join the dots and make connections between otherwise fragmentary pieces of empirical phenomena. [55]

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