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Fluid Constellation: Hybrid Dynamics of the Irish Bottled Water Industry

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A dissertation submitted to the Department of Sociology at Trinity College, University of Dublin, in fulfilment of the requirements for the award of Doctor of Philosophy.

January 2008

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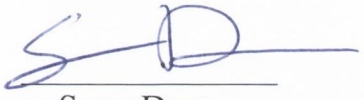

Sean Dunne

12/6/08

Summary
Fluid Constellation: Hybrid Dynamics of the Irish Bottled Water Industry

This dissertation provides an analysis of the Irish bottled water industry by constructing a revised version of Adorno's method of immanent critique. It incorporates the negative dialectical approach advanced by Adorno and revises it with the nonmodern perspective argued by Bruno Latour and other Actor Network Theorists. The strategy employed throughout the research involved the juxtaposition of marketing, regulatory and industrial networks of practice and demonstrated the various attractions and aversions that exist between each network. This framework was designed as an attempt to unravel the sociohistorical significance found within Irish bottled water by analysing the many networks, actants and ideologies that contribute to the production of Irish bottled water.

Adorno's theoretical work was employed to reveal the alliance between identity thinking, instrumental reason and the conditions of advanced industrial capitalism by showing how their combination are used as forms of control and oppression. This thesis explores how various alliances utilise both material and discursive techniques within marketing, regulatory and industrial practices to establish order within symbolic, cognitive and material constructions related to the Irish bottled water industry. This thesis therefore reveals how regimes are established in various networks and how this enforces an organisational structure that benefits some and marginalises others. Various narratives, beliefs and entities are excluded throughout the production process of bottled water in order to ensure a strictly controlled collaboration of human and nonhuman entities is maintained.

This thesis was also interested in tracing the alliances formed during interactions within the bottled water industry. Aside from addressing what is excluded, or "left out", the thesis also examines what was "left in" during various practices. Adorno's constellation model was revised to investigate the influence of nonhuman actors by using elements of Actor Network Theory that have been developed by Bruno Latour and other theorists. The theoretical focus therefore attempted to incorporate an interest in what has been historically excluded from current forms of organisation involving bottled water, and also investigated what entities are included and the terms of their inclusion.

The thesis identifies three generations of development within the marketing discourse associated with bottled water. Marketing discourses first communicated with a smaller section of Irish consumers by presenting bottled water as luxury to enjoy while dining out. This was done at a time when the idea of buying bottles of water was still quite foreign to Irish consumers, but it was also done at a time when the production capacities of bottled water manufacturing was very limited. As plants were able to become mass producers of bottled water, there was a need to recruit a larger number of consumers. Ballygowan, the market leader, dominated this second phase of bottled water marketing by creating an Irish and "pure" identity for its water and by establishing a means for which more Irish consumers could legitimate the purchase of bottled water. This communications strategy was then followed by the third and current generation of the marketing discourse, which situates Irish bottled water products more conspicuously within contemporary Irish lifestyles.

Research into the regulatory practices associated with bottled water reveals the contingent nature of the scientific definitions and policies produced for the industry. International regulatory agencies produced definitions within regulatory contexts which Irish regulation has adopted. These definitions are produced within specific social and historical locations, but are designed to provide universal guidelines for the bottled water industry. Following the establishment of European guidelines, Irish industry and regulatory agencies worked together to produce industrial standards for Irish bottled water. This process involved the enrollment of various human and nonhuman entities and it produced a document which is able to influence a variety of commercial and regulatory activities within Irish bottled water companies.

Irish bottled water plants were studied to examine the many assessments and negotiations that take place on a daily basis. The investigation revealed that while bottled water companies sought to control the water it extracted into its bottles, plant management was forced to identify and engage with the many ways that water can dissent from, or disrupt the industrial and regulatory order that is integrated into the bottled water plant and the surrounding area. Management is required to integrate a strict system of surveillance and control in order to orchestrate the necessary collaboration of both human and nonhuman entities that are involved in production of Irish bottled water.

The thesis concludes by offering several interpretations of the practices studied throughout the study of the Irish bottled water industry. The conclusions of the thesis aim to reflect on the current methods of producing socio-natural outcomes in Ireland and to contribute to the discussions of how these methods might be renegotiated.

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TABLE OF CONTENTS

Declaration ii
Summary iii
Acknowledgements iv

Chapter 1: Introduction 1

Chapter 2: The Idea of the Socio-Natural
2.1 Introduction 13
2.2. The Holy Well 14
2.3 Environmental Sociology 17
2.4 The Realism-Constructivism Debate 19
2.4.1 Introduction 19
2.4.2 Divide Between Nature and Society 20
2.4.3 Scientific Descriptions of Nature 24
2.4.4 Political Implications 29
2.4.5 Conclusion 32
2.5 Theodor Adorno and the Actuality of Philosophy 33
2.6 Bruno Latour and the Nonmodern World 36
2.7 Theodor Adorno and the Idea of Natural-History 40
2.7.1 Introduction 40
2.7.2 The Idea of Natural-History 40
2.8 Conclusion 43

Chapter 3: Constellation Framework and Hybrid Formations
Introduction 46
3.2 *Dialectic of Enlightenment* and Translations 49
3.2.1 *Dialectic of Enlightenment* 49
3.2.2 Only One Sirens' Song? 51
3.2.3 Translations 53
3.3 From Myth to Science 57
3.3.1 Disenchantment and Domination of Nature 61
3.3.2 Identity Thinking 63
3.3.3 Nonidentical 67
3.3.4 Revision of Negative Dialectic's Focus 70
3.4 Parataxis and Networks of Practice 75
3.5 Conclusion 81

Chapter 4: Methodology
4.1 Introduction 88
4.2 Critical Theory 89
4.3 Research Perspective 87

4.4 Constellation and Force-Field 98
4.5 Data Collection Techniques 101
4.5.1 In-depth Interviews 102
4.5.2 Secondary Documents 108
4.5.3 Ethnographic Observation 109
4.6 Interpretation and Analysis of Data 110
4.7 Company Profiles 112
4.7.1 Introduction 112
4.7.2 Ballygowan 113
4.7.3 Kerry Spring 114
4.7.4 Tipperary Natural Mineral Water 115
4.7.5 Deep RiverRock 115
4.7.6 Fíor Uisce 116
4.8 Conclusion 117

Chapter 5: The Commodification of Irish Water
5.1 Introduction 119
5.2 Producing Consumers 120
5.3 Regime of Values 125
5.3.1 Re-enchantment of Water 125
5.3.2 Constructing an Irish Identity 129
5.3.3 "Purity" and Bottled Water 136
5.4 Conclusion 149

Chapter 6: Theatre of Consumption
6.1 Introduction 150
6.2 Water as a Theatrical Prop 152
6.3 Scripting Consumer Performances 161
6.3.1 Bottled Water within Pure Lifestyles 161
6.3.2 Bottled Water to Remedy Impure Lifestyles 167
6.3.3 Supporting Charitable Lifestyles 172
6.4 Conclusion 175

Chapter 7: International Epistemic Communities and the European Context
7.1 Introduction 177
7.2 Language, Objects and Contexts 179
7.3 Epistemic Communities 195
7.4 European Context 199
7.4.1 Introduction 199
7.4.2 Vested Interests 200
7.4.3 Harmonization 203
7.5 Conclusion 205

Chapter 8: Translating Irish Bottled Water Regulation
8.1 Introduction 207
8.2 Problematization and Alignment 208
8.2.1 Introduction 208
8.2.2 National Standards Authority of Ireland 209
8.2.3. Motives behind the Standard's Creation 215

8.3 Interessement 219
8.4 Enrollment 221
8.5 Mobilization 227
8.6 Regulation at a Distance: The Standard as Immutable Mobile 228
8.6.1 Introduction 228
8.6.2 Standard's Use Within Industrial Practices 229
8.6.3 Commercial Influence of NSAI Standard 232
8.7 Regulatory Intermediaries 234
8.8 Conclusion 239

Chapter 9: Strategic Collaborations
9.1 Introduction 241
9.2 Drawing Boundaries 243
9.3 The Role of Water's Agency 246
9.4 Discipline and Purity 258
9.5 Conclusion 272

Chapter 10: Overview and Conclusion
10.1 Introduction 274
10.2 Water as the Other 275
10.3 Aura and Commodified Water 279
10.4 Nonidentity and Organised Irresponsibility 281
10.5 Mimesis and Agency 285
10.6 Conclusion 287

Bibliography 289

List of Figures

Chapter 1

Fig 1.1 Geoff Read and Ballygowan 1

Fig 1.2 Bottled Water Sales in Ireland (1984-1995) 2

Chapter 2

Fig 2.1 William Orpen Nude Pattern, The Holy Well 1916 15

Chapter 4

Fig 4.1 List of Interviewees 102

Fig 4.2 Ballygowan product label 113

Fig 4.3 Kerry Spring product label 114

Fig 4.4 Tipperary Spring product label 115

Fig 4.5 Deep RiverRock product label 116

Fig 4.6 Fior Uisce product label 116

Chapter 5

Fig 5.1 Ballygown Pure Irish Water 141

Fig 5.2 Tipperary Natural Mineral Water 143

Chapter 6

Fig 6.1 Water You Wear Campaign Launch 153

Fig 6.2 Water You Wear Product Label 153

Fig 6.3 Jonah Lomu and the Power of Purity 162

Fig 6.4 Bodies Never Lie 164

Fig 6.5 Purer than your Weekend 167

Fig 6.6 Water for Africa. Drink Up. Dig Deep 172

Chapter 9

Figure 9.1: Process Flow Diagram for Bottling Water 263

Our next guest appeared on The Late Late Show as a male fashion model, not on our fashion show, just an item we were doing about fashion, and sitting around the studio during the day, he told our Mary O'Sullivan what plans he had in life. And the plan he told Mary O'Sullivan was that he was going to be a millionaire. He was going to make a great deal of money through bottling Irish water and selling it around the world. Well, Mary O'Sullivan wasn't right for three days with the laughing.

(Audience laughter)

And she went around telling everybody, and we all had a great, great laugh about this loopy that we had on the late show. He was going to bottle Irish water and sell it around … (laughs) … I mean did you ever hear anything so ridiculous in your life? Well the laugh is over, and the laugh is on the rest of us, because that is precisely what he did.

-Gay Byrne, during his introduction of Geoff Read on The Late Late Show, on May 13th, 1987

Chapter One: Introduction

On May 13, 1987, Geoff Read was a guest on the popular Irish talk show, The Late Late Show. His appearance on the show was part of a low budget public relations campaign that helped launch his new company, Ballygowan. Ballygowan was the first Irish bottled water to enter the Irish market, and Read's novel idea was met with mixtures of surprise, scepticism and bewilderment from the host, Gay Byrne, and other guests on the show. Byrne's reaction to Read was one shared by many viewers of the program and the topic of the show is one that is still clearly recalled by many Irish people today[1].

Figure 1.1 Geoff Read and Ballygowan

[1] The Late Late Show was not only a popular television show, but it has also been a major engine for social change and public debate in Ireland (Inglis, 1999). This made The Late Late Show an appropriate medium to introduce the Irish public to what was then the eccentric idea of an Irish bottled water.

At the time of Read's appearance on The Late Late Show, the Ballygowan company was the pioneer of the emerging Irish bottled water industry and was seeking to expand its distribution overseas by agreeing to a distribution deal with the US-based Anheuser-Busch company. The optimism shown by Ballygowan in seeking partnership with the Anheuser-Busch company is significant considering the first Irish bottled water was only produced in 1981 (Shane O'Neill quoted in LaMoreaux and Tanner, 2001: 9). The bottled water market in Ireland had grown at a tremendous pace and this growth was also evident in other bottled water markets throughout the world. However, Irish bottled water was a new phenomenon compared to other established markets, as there were no bottled water plants prior to the 1980s, and consumption grew from a relatively nonexistent 0.3% per capita in 1985 to 9% per capita in 1995 (Shane O'Neill quoted in LaMoreaux and Tanner, 2001: 9). The Bottled Waters Association of Ireland (1996: 3) graph presented below clearly indicates the substantial growth of the market after the establishment of the first Irish bottled water in the Irish bottled water market:

'000 LITRES

YEAR	DOMESTIC		IMPORTS		TOTAL	
1984	1,200		800		2,000	
1985	2,300	(+91.6%)	926	(+ 15.8%)	3,226	(+61.3%)
1986	3,600	(+60.8%)	830	(- 10.4%)	4,529	(+40.4%)
1987	6,360	(+71.9%)	856	(+ 3.1%)	7,216	(+59.3%)
1988	8,390	(+31.9%)	805	(- 6.0%)	9,195	(+27.4%)
1989	10,974	(+30.8%)	1,011	(+ 25.6%)	11,985	(+30.3%)
1990	14,893	(+35.7%)	1,117	(+ 10.5%)	16,010	(+33.6%)
1991	16,386	(+10.0%)	1,841	(+ 64.7%)	18,227	(+13.8%)
1992	18,366	(+12.1%)	2,252	(+ 22.3%)	20,618	(+13.1%)
1993	26,111	(+42.2%)	2,410	(+ 7.1%)	28,521	(+38.2%)
1994	28,500	(+ 9.2%)	3,000	(+ 25.0%)	31,500	(+10.5%)
1995	33,000	(+15.8%)	6,000	(+100.0%)	39,000	(+23.8%)

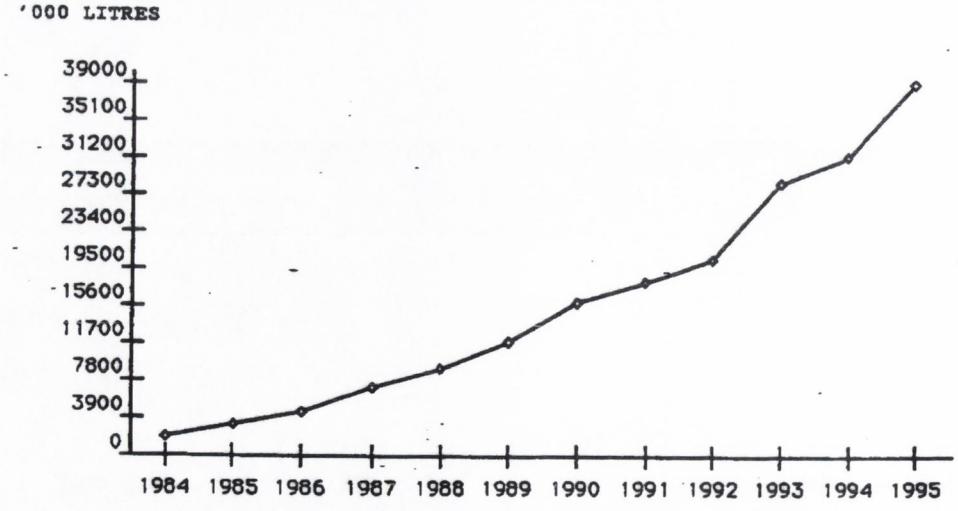

Figure 1.2 Bottled Water Sales in Ireland (1984-1995)

This growth has continued up to present day, as the Irish bottled water market increased its value by €97 million between 1999 and 2005, which marked a 148% increase. The yearly growth rate for 2004-05 was 25% and the total market value in 2005 was $143.5 million (Mintel, 2006: 19). The Irish bottled water market has also experienced a strong volume growth, showing a 24% increase between 2004 and 2005. The represents an increase in total volume of 150 million litres, with still water accounting for approximately two-thirds, or 100 million litres, of this growth[2] (2006: 19).

Nietzsche (1997: 515) maintained that "the irrationality of a thing is no argument against its existence, rather a condition of it", and for many, Irish bottled water provides clear proof of his maxim. This condition is also very similar to what Walter Benjamin believed to be the starting point for materialist analysis when he stated that "sundering truth from falsehood is the goal of the materialist method, not its point of departure. In words, its point of departure is the object riddled with error, with *doxa* [conjecture]" (Benjamin, quoted in Jay 1984b: 60-61). The relevance of such thoughts to the bottled water industry sparked the research interest in the perceived irrationality of Irish bottled water which led to a focus on the practices that were aligned during its production:

> Material production, distribution, consumption are administered together... A societal meta-subject does not exist. The semblance could be expressed in the remark that everything existing in the society today is so completely mediated that precisely the element of mediation is obscured by the totality. There is no longer any standpoint outside the apparatus which one could take up in order to call the spectre by its real name; one can tackle it only where it is inconsistent with itself (Adorno quoted in Pickford, 2002: 315).

This thesis will examine what many would consider to be the irrational elements and inconsistencies found within bottled water by analysing the marketing, regulatory and industrial practices of the Irish bottled water industry. Similar to the deconstructive method of reading texts, the theoretical approach adopted here will cause networks of

[2] This thesis will focus on still water and will not examine flavoured or carbonated waters.

practices to "question themselves, forcing them to take account of their own contradictions, and exposing the antagonisms they have ignored or repressed" (Newman, 2001: 3). It will interrogate Irish bottled water by juxtaposing marketing, regulatory and industrial practices to examine how each network differs and aligns throughout the production process.

The irrationality of bottled water seems to be particularly pertinent in an Irish context. Ireland is well known for its rainy and wet weather, as it experiences 1,140mm of rainfall a year, and it is estimated that 360mm of this rainfall is deposited as ground water (ENFO, 2000). Furthermore:

> Fifty percent of Ireland's groundwater is considered 'developable' meaning that we could extract it relatively easy. At present we extract less than 2% of the developable groundwater and of this, public bodies use 36%, industry uses 37% and the remainder is used for rural domestic supplies. Most groundwater is extracted in the east of the country and least in the west and north-west. Some midland and western counties have a very high dependence on ground water – County Roscommon, for example, uses groundwater for about 90% of its water supply (ENFO, 2000).

Even with the vast amount and widespread availability of water, the bottled water industry has experienced tremendous growth and now outprices many other drink products. The Consumer's Association of Ireland (2007) carried out a recent survey that found that some bottled water is more expensive than orange juice, milk, fizzy drinks, and even export lager. The survey of 32 bottled waters found that prices ranged from 22 cents a litre to €2.18, finding that some flavoured waters that proclaimed health benefits such as less fat or sugar can be twice as expensive per litre as petrol[3].

The commodification and privatisation of Irish water make the comparison to petrol a very significant one as the issue of water availability moves closer to the centre stage of several political discourses. In 1995, Ismail Serageldin, vice president of the

[3] The cost of petrol in Ireland is approximately €1.05 a litre in January 2008.

World Bank, stated that "if the wars of this century were fought over oil, the wars of the next century will be fought over water" (Shiva, 2002: ix). Conflicts and controversies surrounding water can be found not only within Ireland and but also around the world. Bottled water sales are increasing as debates, protests, and wars linked to water issues are escalating around the world.

Of critical importance to the political debates is a growing concern over the future of the world's water resources (De Villiers, 2001; Gleick, 2002). According to Dr. David Molden, a principal scientist with the International Water Management Institute, "The bottom line is that groundwater levels are plummeting and our rivers are already overstressed, yet there is a lot of complacency about the future" (Vidal, 2003). As groundwater levels decrease, modern lifestyles place an increased burden on water supplies through the current residential, industrial, and agricultural uses of water (Barlow and Clarke, 2002a: 6-9).

Shiva (2002) notes the prevalence of water conflicts throughout the world and that these have taken place due to claims of national sovereignty, construction of dams, industrialisation and pollution. In one of the most politically and religiously disputed areas in the world, water plays a vital role in the debates on how to govern the area. Prashad (2003) explains that nearly 50% of Israel's water is sourced from aquifers located beneath the Occupied Territories of Gaza and the West Bank, and another 25% comes from the Sea of Galilee.

Water has become a controversial issue within economic agreements and trade bodies, and this immediately starts with how water is *defined.* It has been defined as a "good" by the World Trade Organization, as an "investment" by the North American Free Trade Agreement, and as a "service" in the General Agreement on Trade in Services and the Free Trade of the Americas negotiations (Barlow and Clarke, 2002a). It has also been defined as a "right" by others that have argued against many of these agreements (Petrella, 2001; Shiva, 2002). The definition of water in various contexts and by different organisations has become a battleground for social actors from a variety of interests, and has resulted in a broad collection of ways in which water is perceived and used.

Economic organisations that have sought to privatise water have been met with massive protests, as events in Cochabamba, Bolivia demonstrated in April, 2000 (Olivera, 2004). Protests and social movements are developing around the world in reaction to the policies enforced by international organisations and national governments (Balanyá et al, 2005; Sjölander Holland, 2005). Disputes and battles over water are not a recent phenomenon (Shiva, 2002), but their number and size point towards increasing struggles over the access to public water sources and the allocation of public water.

The necessity of water for life has brought arguments about how water should be distributed to the forefront of many organisations including the United Nations, which has recently started a World Water Week and hosts other events to highlight the importance of the world's water supply. Others, such as Mike Stark, a senior executive at Vivendi subsidiary US Filter, see the necessity of water as an opportunity to profit, when he states that "water is a critical and necessary ingredient to the daily life of every human being, and it is an equally powerful ingredient for profitable manufacturing companies" (Polaris, 2003: 2).

Issues on privatisation have been fought in many arenas including the World Water Forum, where activists have taken to fighting with groups intent on privatisation (Spaulding, 2003). This is the much discussed conference that had one of its meetings titled; "How will the poor become customers?" Privatisation continues with the aid of front lobby organisations such as Global Water Partnership, World Water Forum, World Water Council, European Services Forum, and the U.S. Coalition of Service Industries (Polaris, 2003: 7).

According to Barlow, it is the World Water Council that:

> Set itself up as a global high command of water existing for its own benefit, to commercialize and commodify water. They have a big forum every three years, where they invite governments to come and observe, and the governments pick up this language of water as a commodity, such that governments really didn't think about this language 10 or 20 years ago (Barlow, 2005).

Bottled water companies are also involved in the relationships between the public and water. Some companies have lobbied politicians to oppose legislation that would improve the quality of public water supplies (Clarke, 2005), and Coca Cola's bottled water uses public water from public supplies and sells it back in its product Dasani .

As a country, Ireland has been involved in a number of water disputes. Many Irish people believe that the Irish Sea contains excessive and harmful amounts of radioactive elements due to the waste produced by the Sellafield Nuclear Facility in England. The agricultural sector in Ireland has been under fire for the pollution found in lakes and rivers around Ireland. Fishing rights after accession into the European Union have been disputed. More recently, the Galway water crisis uncovered the existence of cryptosporidium, a protozoan pathogen that causes diarrhoeal illness, in the public water supply in Galway. Galway County Council reacted to the situation by ensuring that Galway bottled water was offered 'buy one get one free' to residents in affected areas. This afforded the private sphere with an opportunity to position itself as a superior source and manufacture a greater trust level with consumers. It also allowed Galway City Council to avoid the responsibility of providing a drinkable supply of public water to residential and commercial buildings in several areas of Galway.

Water crises have many causes, ranging from the results of privatisation to national wars, to disputes involving industrialisation. However, similar to other environmental crises that are more frequently discussed, the water crisis can also be seen as:

> indicative of epistemological problems rooted in the discourse of progress that lead us to conceive: of the environment as a storehouse of resources to be exploited; of ourselves as autonomous individuals existing independent of our environment and each other; of our relation to nature as one of domination; and of our environmental crises as mere technical problems to be solved (De Luca, 2001: 307).

Proust famously stated that "the real voyage of discovery... consists not in seeking new landscapes but in having new eyes" (Proust quoted in O'Brien, 1948: 181).

Similarly, Adorno stated that "natural-history is not a synthesis of natural and historical methods, but a change of perspective" (1984: 118). The idea of developing a revised perspective to examine the physical environment was present throughout the background of the research for this thesis, as I tried to develop a theoretical view within current debates in environmental sociology that would be able to produce a sociologically-informed understanding of the Irish bottled water industry.

This thesis therefore seeks to explore the sociological significance of the development of the Irish bottled water industry and this exploration is undertaken at a time when water issues are surfacing in many areas around the world and when the bottled water industry is finding itself under attack for a variety of reasons[4]. Through an analysis of the Irish botted water industry, an attempt was made to bring together differing yet related practices to highlight the many entities and networks that come together to produce bottled water, while also uncovering how various possibilities and elements have been ignored throughout the process. The theoretical approach adopted for this research "does not assert unilinearity, but can instead make competing developmental paths visible" (Eder, 1996: 4). This approach was influenced by Adorno's concepts of 'constellation' and 'force-field', through which Adorno believed that:

> Interpretation of the unintentional through a juxtaposition of the analytically separated elements and illumination of the real by the power of such interpretation is the program of every authentically materialist knowledge (Adorno, 1977: 127).

The interpretation employed throughout this thesis will be based on a revised approach of the negative dialectics developed by Adorno. According to Held, Adorno's Negative Dialectics:

> Operates within the 'force-field' between concept (*Begriff*) and object, idea and material world. It confronts its object with norms which the object itself has formed. It examines contradictions between the object's idea of itself and its actual existence. In this process it surpasses the object's self-image, and

[4] Cities around the world, such as Paris, New York and San Francisco have restaurants that are calling for ban of bottled water (Burros, 2007).

> brings the object into flux. Thus the immanent method, through its capacity to produce a 'heightened perception of the thing itself', cannot escape a certain 'transcendent' quality. The transcendent element of this approach does not, of course, lead to a once and for all grasp of the totality (Held, 1980: 214).

The approach offered in this thesis incorporates the object (bottled water), the idea (instrumental reason and identity thinking within marketing, regulatory, and industrial practices) and the material world (human and nonhuman entities involved in the production process). It will also pay more attention to the practices involved throughout the interactions and alliances between bottled water, discourses and the material environment.

Adorno's negative dialectical approach sought to expose the nonidentical, by bringing together elements of a thing that were at times contradictory or opposing, in order to show what has been left out or marginalized. A similar strategy will be used here, but it also incorporates the recent work of Bruno Latour. Adorno's focus on mediations was supposed to highlight what has been excluded, and Latour's strategy has described the formation of alliances during the translation process of quasi- objects and hybrids. These two approaches are incorporated throughout the dissertation to examine the dialectic mediations between what is included and excluded in the production of Irish bottled water in processes of both poesis and praxis (Eder, 1996). It is in this approach that there is an "aim to awaken congealed life" in the "petrified object" of the bottled water commodity and, also, to "scrutinize living things so that they present themselves as ancient, 'un-historical', and abruptly release their significance" (Adorno, 1981: 233).

The next two chapters will discuss the theoretical framework that informed the research process. Chapter 2 explores the increased attention paid to environmental issues within sociology and will introduce a theoretical perspective that incorporates the work of Theodor Adorno and Bruno Latour. The third chapter provides an overview of a key debate within contemporary sociology by first using Adorno and Horkheimer's *Dialectic of the Enlightenment* as a point of reference for several critical issues within the debate. It will then conclude by describing the inclusion of

Adorno and Latour's work throughout this study. This will include a discussion of Adorno's constellational framework and Latour's focus on quasi-objects and hybrids.

The constellational framework found within the theoretical perspective influenced the methodological strategy employed during the field research and this is explained in the fourth chapter. The force-field concept is used to compliment Adorno's constellation method and this approach is described within the general tradition of critical theory. The chapter concludes with an explanation of the data collection techniques used throughout the research.

There are then five analysis chapters that examine the marketing, regulatory and industrial sectors related to the Irish bottled water industry. Each sector is first described as its own monad, but each is juxtaposed to provide a constellational framework through which this study of bottled water will take place. Benjamin argued that:

> Thinking involves not only the flow of thoughts, but their arrest as well. Where thinking suddenly stops in a configuration[5] pregnant with tensions, it gives that configuration a shock, by which it crystallizes into a monad. A historical materialist approaches a historical subject only where he encounters it as a monad. In this structure he recognizes the sign of a Messianic cessation of happening, or, put differently, a revolutionary chance in the fight for the oppressed past. He takes cognizance of it in order to blast a specific era out of the homogenous course of history – blasting a specific life out of the era or a specific work out of the lifework (Benjamin, 1999a: 262-263).

The strategy here is to take cognizance of each of the three sectors included in this study in order to "blast out" a series of practices and entities from the "homogenous course" of the outcome of Irish bottled water. This is done in order to show the contingent nature of the many alliances formed throughout the production process, and also to highlight the context and motives behind the creation of these alliances. A network was defined by Callon (1993: 263) as a "group of unspecified relationships

[5] As explained later, "configuration" and "constellation" were used interchangeably by Benjamin.

among entities of which the nature itself is undetermined" and this dissertation will trace how the nature of various relationships between entities involved in the Irish bottled water industry are determined through a variety of interactions.

Chapters 5 and 6 will provide an analysis of the marketing practices and discourses associated with the Irish bottled water industry. Chapter 5 analyses the importance of marketing within the bottled water industry and examines the strategies behind the commodification of Irish water that have developed over time. Chapter 6 then examines how bottled water works to situate itself within Irish consumer lifestyles through a series of marketing strategies that use bottled water itself as a communicative medium within social contexts.

Chapters 7 and 8 examine the regulation of the Irish bottled water industry. Chapter 7 explores the use of language and concepts to describe water within a variety of scientific contexts. The chapter analyses the networks in which the regulation of Irish bottled water is situated from Codex Alimentarius to European directives, and concludes with a discussion of the harmonization process in Europe.

Chapter 8 examines the creation of the NSAI bottled water standard through a process of translation. It describes how the process was initiated and follows how various actors and entities grouped together to produce the standard. It then examines how the standard is certified and how it influences industrial and commercial activities.

The point of physical encounter between the water in aquifers and the bottled water plants is studied in Chapter 9. This begins with a discussion of the type of water selected and chosen and then moves into a discussion of the plant itself. The plant's activities are governed by the attempted division of the natural and the social, and this process is explored for the impact it has on the various entities that are involved in the production process.

The examination of various discursive and material interactions involving the water used in the Irish bottled water industry, "each of which if taken in isolation, would be inadequate and distorting, might be confronted with each other precisely on the basis of their individual limitations in order to yield an insight" (Rose, 1994: 159) into

socio-natural processes. The thesis concludes with a discussion of how a revised version of Adorno's critical framework can provide several useful insights into the collaborative efforts between human and nonhuman entities that produce Irish bottled water.

Chapter Two: The Idea of the Socio-Natural

2.1 Introduction

Adorno's (1990: 320) suggestion that "universal history must be construed and denied" influenced the theoretical approach to the socio-natural developed in this thesis. Similar to Adorno's view of history, there is no plan that is manifest within socio-natural outcomes that can guarantee an emancipatory or ethical outcome. A socio-natural outcome is also "the unity of continuity and discontinuity", as it also "stays alive, not despite its antagonism, but by means of it" (ibid: 320). The processes of exclusion and inclusion that form the antagonism of socio-natural outcomes were the central focus of this thesis, and the theoretical framework was designed to critically interpret these processes.

The discussion that follows will explore the theoretical setting in which the analysis of this thesis takes place. The explanation of the theoretical background will begin with the examination of William Orpen's "Nude Pattern: The Holy Well". It will describe how Orpen's painting addresses several concerns that are found within theoretical perspectives of the environment. Orpen's depiction of a ceremony involving a Holy Well in Rural Ireland provides a useful introduction to a theoretical discussion of bottled water plants in contemporary Ireland.

The chapter will then provide a general history of the development of environmental sociology, with a specific interest in the approaches to the physical environment found within classical sociology. This will proceed to a discussion of the realist-constructivist debate, which is the most prominent debate in environmental sociology today. The work of Theodor Adorno and Bruno Latour is then situated within this tradition. Adorno's work is discussed in reference to his essay, "The Actuality of Philosophy", and Latour's work is introduced with reference to "An Interview with Bruno Latour". The strategy behind Adorno's "The Idea of a Natural History" is then explored, as a similar strategy is adopted within the theoretical framework of this thesis. The chapter will then conclude with a brief discussion of the theoretical framework of this thesis, which will be developed further in Chapter 3.

2.2. The Holy Well

The theoretical work in this thesis aims to establish a dialectic between the entities which are involved and aligned with the practices of the Irish bottled water industry and those that are excluded by the process. This approach examines the interaction between human and nonhuman entities in order to see what type of socio-natural hybrid is produced, and develops an interpretation of the significance of these interactions through the juxtaposition of different networks of practice. This interpretation therefore considers how the bottled water hybrid is co-produced by both social and natural actants, and analyses how this outcome is achieved through processes of inclusion and exclusion. The Irish bottled water industry is the empirical setting in which this theoretical analysis takes place, and marketing, regulatory and industrial practices are examined to interpret how bottled water can be understood as a social-natural outcome.

A useful comparison to the theoretical strategy of this thesis was found within the scene depicted in William Orpen's "Nude Pattern, The Holy Well" (see Figure 2.1). Orpen's painting was created at a time when the demand for Irish independence was gaining strength and this was a development which Orpen opposed[1]. Orpen's painting, which was produced to ridicule the intelligence of rural Irish people in order to question whether they should be granted independence, can be understood as part of what Kiberd (1995: 102) has described as the "imperial strategy of infantilizing the native culture". It is interesting to consider the techniques Orpen used in the painting to depict the rural Irish as uncivilized and infantile subjects.

[1] The time and place of the painting, 1916 Ireland, is significant as it was the year of the Easter Rising in Dublin. Orpen, an urban, middle class Protestant, opposed the Nationalist cause. For further information on Orpen's life and views of Ireland, see (Upstone, 2005).

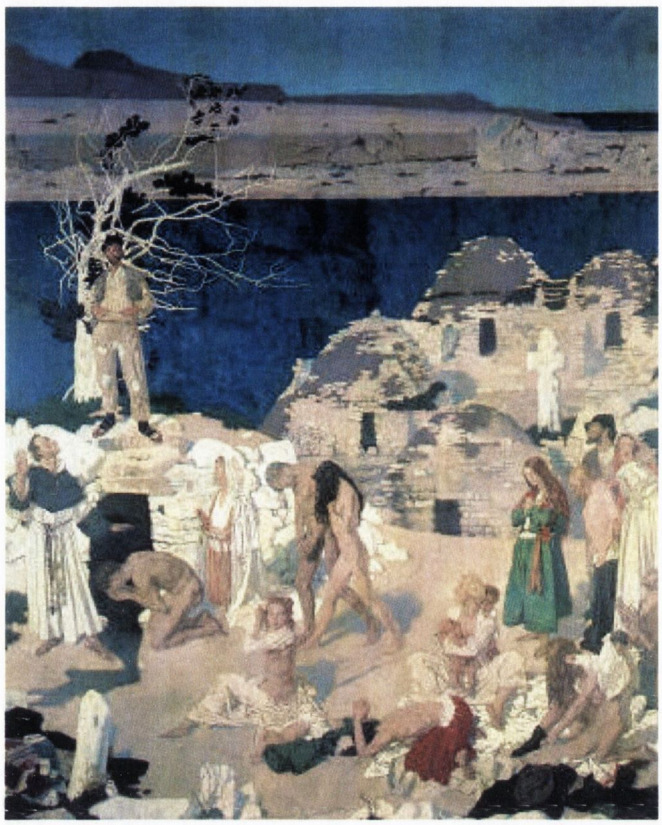

Figure 2.1 William Orpen Nude Pattern, The Holy Well, 1916

Orpen presents a scene set in rural Ireland where naked and semi-naked individuals partake in a religious ceremony governed by a priest. The painter's strategy was therefore to illustrate a collection of entities to critique the beliefs and values that coordinated their alignment. The ceremony is cynically observed by a character dressed in similar fashion to that of the Playboy of the Western World's protagonist[2]. The observer's pose, "standing coolly apart from what he's observing", like the positivist criticised by Adorno, views the participants of the ceremony as inferior and laughable. Participants show fear in their actions and submission to the priest (the leader of the ceremony), who in turn looks up to the perspective of the cynical observer. The participants also express reverence to the water after the priest's blessing has provided it with a spiritual aura, which reveals the water's active role in the communicative and material practices depicted in the scene.

[2] The observer is Orpen's pupil, Seán Keating, who would later produce a series of paintings of rural Ireland and of the Irish nation (Upstone, 2005). The Playboy of the Western World was a famous Irish play that was also critical of rural Ireland. The Playboy of the Western World's opening at the Abbey Theatre was met with massive protests and riots. For a further discussion of how Synge's writings impacted on social and political structures in Ireland, see (Kiberd, 1995).

Despite criticisms of Christianity's relationship to the environment which reveal a domineering view of nature (White, 1967), a major point of Orpen's criticism is directed towards the closeness that the participants express with the physical environment within a Catholic ceremony. The removal of clothes, interaction with the water source and primitive stone buildings are used to question the civility of the rural Irish as a way to demonstrate that they are not competent enough to be granted independence. The lack of distance between the natural and the social is therefore considered suspect, and this is expressed in the observer who demonstrates distance from both the participants and the ceremony.

The observer can be seen as an embodiment of Horkheimer's interpretation of bourgeois thought which thinks of itself as an autonomous entity and which Horkheimer (2001: 210) believes "is essentially abstract, and its principle is an individuality which inflatedly believes itself to be the ground of the world or even to be the world without qualification, an individuality separated off from events". This perspective is very different from perspectives found within the primitive cultures described in Mary Douglas's *Purity and Danger* (2002). Many of these cultures believed "the physical environment is not clearly thought of in separate terms", and "the self is not clearly separated as an agent" (ibid: 104).

Adorno and Horkheimer's *Dialectic of the Enlightenment* (1997) argue that the development of enlightenment thought in modern societies replaced the role of myth in primitive societies. Myth, according to Adorno and Horkheimer (ibid: 6), represented an anthropomorphic nature. This belief system was similar to the one held by the cultures explored by Douglas (2002: 104), which thought that "the universe is part of the self in a complementary sense". In contrast, enlightenment thought views the universe as an empirical object separated from the subject and "the conclusion of this process is adequately expressed in Kant's domain of empirical reality: an ideally conceptually closed system of law-governed substances" (Bernstein, 2001: 191).

Along with its perceived separation from the material environment, the physical interaction with the material environment is perceived with ridicule. The decision not

to transform and control the physical environment towards certain ends is at odds with John Stuart Mill's understanding of the duty of man:

> The duty of man is the same in respect to his own nature as in respect to the nature of all other things – namely, not to follow but to amend it. Some people, however, who do not attempt to deny that instinct ought to be subordinate to reason, pay deference to Nature so far as to maintain that every natural inclination must have some sphere of action granted to it, some opening left for its gratification (Mill, 2004: 54).

The separation and duty suggested by Mill places the individual thinking subject above nature, just as the cynical observer in Orpen's painting is placed above the ceremony. The notion that society and nature are separate entities is developed from the perspective argued by Mill and others, and is expressed in Orpen's painting as well as in a variety of theoretical perspectives of society and the environment. This idea is also evident in the ideological structures that govern the marketing, regulatory and industrial practices of the Irish bottled water industry. The approach that will be put forward in this thesis is situated within current debates of environmental sociology, and is developed as a response to many important themes that surfaced during past and current work. The development of environmental sociology will be explored in the next section.

2.3 Environmental Sociology

Environmental sociology has rapidly developed over the past thirty years, and has placed the concept of nature "on the agenda as never before" (Braun and Castree 1998: 3). Murphy (1994: x) sees nature as a blind spot in classical sociological theory and believes that "sociology has been constructed as if nature didn't matter". In contrast, Buttel (1996) contends that there were understandable factors that led to sociology shifting focus away from nature, but argues that the influence of classical theory can be found throughout the current debate between realism and constructivism. The recent development of environmental sociology has aimed to address the shortcomings of classical social theory and has sought to provide an

alternative theoretical approach that is capable of studying contemporary issues and problems in the relationships between modern society and nature. These aims have not been universally agreed upon, as sociologists have engaged in lengthy debates over how sociology should theorise nature and over what aspects of nature are open to sociological criticism.

Buttel (2000: 38) describes many of the works that led to the development of the sociology of nature since the 1970s as being "formed in opposition or in response to mainstream sociology and/or the classical tradition". He sees this trend starting with the work of Catton and Dunlap (1978) and continuing throughout the development of the sub-discipline to more recent works. Buttel (1996, 2000) counters these criticisms of classical sociology by showing that Marx, Durkheim and Weber incorporated aspects of the environment into their respective social theories and that their work continues to have relevance for contemporary environmental sociology:

> Among the multiple ecologically relevant components of their works are materialist ontologies (in the case of Marx and Engels), biological analogies (Durkheim), use of Darwinian/evolutionary arguments or schemas (Marx, Durkheim, and Weber), the use of nature-society 'metabolism' (Marx), and concrete empirical analyses of natural-resource or "environmental" issues (Marx and Weber) (Buttel, 2000: 39).

Buttel (ibid: 42) concedes that a lack of attention to nature is evident in classical sociological theory, but argues that other eras of sociological theory, such as mainstream post-World War II sociology, were even less ecologically minded. Buttel also highlights the utilization of classical theory as a foundational underpinning of many works (Benton, 1996; Dickens, 1996; and Murphy 1994; 1997) in environmental sociology. He identifies several issues that explain the theoretical turn away from nature in classical sociology.

Sociology was developed during a time when social Darwinism and geographical-environmental determinism were being advanced in social thought (ibid: 42). Sociologists countered this trend by focusing more attention on strictly social factors in their understanding of social structures and conditions. For example, Eder (1996:

10) understands Marx's critique of political economy as an opposition to the naturalistic explanations found in other perspectives.

MacNaughten and Urry (1998: 5) see the increased focus on social factors as a means of sociology developing its own distinct sphere of investigation within the social sciences. This was crucial for the development of sociology as a new discipline, as it was able to distinguish itself from the already existing disciplines in the social and natural sciences (Buttel, 2000: 42). Another issue to influence sociology's creation was its location in Western culture (ibid: 42). The rapid development of natural sciences and technology, as well as the key foundations of Western thought (Pepper, 1984; Leiss, 1972), did not encourage meaningful analysis of the natural environment. Rather than adopting a self-reflective view of the relationship between society and nature, MacNaughten and Urry argue that Western society (or, more accurately, many alliances within Western society) instead celebrated its successful control and domination of nature (1998: 5). These factors combined to direct sociology's attention away from the natural environment, and towards social issues.

2.4 The Realism-Constructivism Debate

2.4.1 Introduction

The increased attention paid to nature in social theory has inevitably led to the construction of a variety of theoretical explanations. Like any other discipline, these varying explanations fuel debate amongst theorists. The debate between realists and constructionists is the most prominent debate within environmental sociology and it has attracted attention from theorists from both inside and outside of the discipline. Key points of the debate focus on how nature can be defined, how nature and culture are intertwined and how knowledge of nature is produced.

Freudenburg (2000:103) sees the debate between realists and constructivists as "the center of attention in environmental sociology", with the social constructionist perspective finding both "fertile ground as well as fierce criticism". The debate is difficult to navigate, as there are varying levels of relativism within the constructivist perspective (Sismondo, 1996), that are complimented by a series of labels to describe

each, such as "strong", "material" and "weak". Likewise, the realist perspective contains diverse arguments, and has also been given numerous labels, such as "critical", "epistemological" and "ecological".

The debate between realists and constructionists reveals the extent to which environmental sociology has developed. Moving beyond the criticism of classical sociological theory, it has ignited a theoretical discussion that has recently experienced contributions from those working in the natural sciences and in a variety of other disciplines (Sokal, 1996; Sokal, 1996b, Koertge, 1998, Sokal and Bricmont, 1998, Collins and Labinger, 2001; Carrier et al 2004; Levitt, 1999, Gross and Levitt, 1994, Brown 2001). The "Science Wars" have questioned postmodern interpretations of the natural sciences, and this has led to heated debates that involve the philosophical beliefs that influence scientific definitions, methods and practices.

While this can be viewed as a positive result, the question of which direction forward must inevitably be addressed. This has been answered in several ways. For Beck, this means avoiding taking one side over the other:

> I consider realism and constructivism to be neither an either-or option nor a mere matter of belief. We should not have to swear allegiance to any particular view or theoretical perspective. The decision whether to take a realist or a constructivist approach is for me a rather pragmatic one, a matter of choosing the appropriate means for a desired goal (Beck, 1999 as quoted in Irwin, 2001:186).

The following sections will explore viewpoints from both sides of the debate and will examine the critical issues separates each side.

2.4.2 Divide Between Nature and Society

The debate between realists and constructivists can be summarized into how each side answers the question of how society and nature are constructed. Realists argue that there is a divide between society and nature, and therefore each is constructed in

different ways and with different components. The realist perspective believes nature is constructed in a specific and potentially understandable way. However, certain components of society, such as social practices and power relations, can impede the development of this knowledge.

The realist belief in fixed powers of nature leads to a clear divide between society and nature. Murphy conceptualizes the relationship between society and nature in a divisive and adversarial manner. He believes that reason, culture, language, science, technology and human institutions should be understood "as distinctively human" (Murphy, 1994: x). Murphy (ibid: 210) establishes the two distinct, (and at times oppositional), forces of society and nature by proclaiming that "human society has infiltrated nature", but "nature still infiltrates society". Realists, like Murphy (1997: 54), argue that nature has causal powers and mechanisms of its own and is able to create new properties, phenomena and species without human interference. These causal powers "exist independently of human discourse" and therefore make nature a force in its own right (Dickens, 1996: 82). The argument for the independence of nature's forces, (which Marx called "laws"), can be traced back to Marx's work on nature. He stated that, "it is absolutely impossible to transcend the laws of nature. What can change in historically different circumstances is only the form in which these laws express themselves" (Marx, quoted in Schmidt, 1971: 98).

To further explain the distinct character of nature, Murphy (ibid: 210) believes that nature is able to react to human constructions "in unexpected ways that come back to haunt its manipulators". Similarly, Vogel (2003: 164) argues for a divide between society and nature but would argue that the two are inseparable, since "humans are the passive products of natural evolution" and because humans "*actively* transform the world surrounding us by (passively!) allowing the natural processes within it to operate".

Constructivism counters the Marxist and other realist perspectives by denying the existence of a single nature. Rather than accepting one, closed system of natural processes, constructivists argue that there are multiple realities that are in a constant

process of being negotiated (Bird, 1987: 259). This perspective moves away from accepting a fixed definition of nature's causal powers and opens up an investigation into how the understanding of nature is socially constructed. Constructivism does not search for a universal nature, but instead proposes that a diversity of natures exist that are "constituted through a variety of socio-cultural processes from which such natures cannot plausibly be separated" (MacNaughten and Urry, 1998: 1). This approach dismisses the notion of a central understanding of nature and the notion of a universal divide between nature and society.

Constructivists see this proposed divide between "nature" and "society" as itself a social construction that is historically and culturally constituted. The description of nature as less "active" and more "passive" figures into the criticisms presented by some constructivists. MacNaughten and Urry (1998: 11) identify the divide as a "prerequisite for practices (like modern society) dependent on constituting nature instrumentally: as a set of passive objects to be used and worked on by people". In this sense, nature can be viewed as a resource to be exploited, so long as its fixed powers are properly manipulated. Braun and Castree dismiss the idea of passive objects that are separated from society and instead locate non-human objects within social activity and instead believe society is "about the many things - technologies organisms, texts - that make possible the association of humans and non-humans" (1998: 169). Both the separation and combination of nature and society is produced through discursive formations, which therefore denies the existence of a "purely extra-social authority" that is capable of arbitrating the shape and dynamism of nature" (ibid: 273). From the constructivist perspective, the separate and exclusive nature demanded by realism is produced through social practices.

A divide between society and nature is not only argued in materialist terms. Certain social constructionists would also argue for a divide between society and nature through their belief that it is language that constructs a nature that does not exist independently of discourse. This leads Latour (2003: 29) to argue that "those who pride themselves in being relativist are, most of the time, social realist". This remark is similar to certain criticisms Adorno put forward during his inaugural address to the University of Frankfurt and Latour also similarly questions the validity of certain modes of thought found within the constructivist realist debate:

> Words and worlds do not represent two statues facing one another and marking the respective territories of two kingdoms – only to one of them will loyalty be sworn. Rather, words and worlds mark possible and not very interesting extremities, end points of a complex set of practices, mediations, instruments, forms of life, engagements, involvements through which new associations are generated. To imagine that a choice has to be made between statements and matters of fact, would be like pitting the two banks of a riverbed against one another while ignoring the huge and powerful river that streams in between (ibid: 39).

Realists allow for the influence of social constructions in the relationship between society and the environment. Murphy (1997: 34) believes that "ideas intervene between nature and its description, and that interests, values, conflict and power - in short, the social - shape our conceptions of reality and influence its formation". Likewise, Dickens (1996: 71) states that social processes are involved in the development of knowledge of the environment. However, he believes a crucial distinction exists between the role of social factors in realism and constructivism:

> This is between material processes and relations on the one hand and our understandings of, and communications about, these processes on the other. It is self-evident that the latter are indeed social constructions. Realists would certainly not have a problem with such a proposition. They are as interested in people's understandings and discourses as anyone else. They are especially interested in their material effects. But they are also even more interested...in the complex relationships between, on the one hand, the causal powers of nature and the material processes involved in these powers, and, on the other hand, the particular ways in which people communicate to one another about these powers and processes (Dickens, 1996: 83).

Realists therefore argue that "knowledge is socially constituted", but "that does not entail that knowledge is only socially constituted" (ibid: 72). The descriptions constructed of natural factors are revisable, but this does not alter the independent existence of nature's causal powers. In its theoretical approach, the realist perspective

criticizes social constructivism for ignoring nature by placing too much emphasis on the role of social factors. For Dickens (ibid: 73), constructivism makes a similar mistake to that of classical theory, as it "runs the real risk of repeating and reinforcing the very kinds of anthropocentrism that are one of the key targets of modern environmental thinking". Constructionists counter the realist critique by claiming that the realist belief in natural, causal powers leads to the belief in a single, non-changing reality. The constructivist argument claims that this belief also encourages the idea of social structures having natural, causal powers. Franklin states:

> Reference to the powers of nature, by which is meant the causal powers of nature as they interact with the causal powers of social structures to produce any one knowable/measurable ecological conjuncture, is a hallmark of realism (Franklin, 2002: 41).

A counterargument to Franklin's perspective could state that "the claim that language constructs reality ignores the whole historical process whereby language distances itself from the natural order" (Kidner, 2000: 349). Kidner (ibid: 343) points out the many deficiencies of an approach which does not accept the existence of a material reality outside of language[3], although he acknowledges that "unmediated contact with nature is unrealistic". While concepts and language cannot fully grasp what they attempt to describe, language itself should not be seen as "constituting and defining nature" (ibid: 352).

2.4.3 Scientific Descriptions of Nature

The scepticism of knowledge claims within the constructivist perspective leads to the realist accusation of relativism. Realists acknowledge that alternative definitions of nature and knowledge can exist, but this does not deny the existence of nature's causal powers. Murphy (1997: 24) believes "the mere existence of alternative accounts does not, however, demonstrate that one is as plausible as the other". Likewise, Dickens (1996: 83) proposes, "all natures are indeed social constructions.

[3] Kidner argues that this is a result of an industrialised view of nature. He likens the perspective to the views of colonisers, believes it colludes with commercialism and would be responsible for "leaving us with no basis outside language for verifying the accuracy of different descriptions" (ibid: 354).

But some social constructions are in a sense 'more equal' than others". Murphy (1997: 55) summarizes this point by stating that "there may not be one best interpretation of an issue (or there may be), but some interpretations are better than others".

The problem with social constructivism, according to Murphy, is that it "does not distinguish between truth and falsehood, judging both equally suspendable" (ibid: 24). Franklin (2002: 50) dismisses this claim by realists and suggests the reason for the claim is due to the fixed agenda of realists. He believes realists attack constructivists because constructionists threaten the certainty of the realists' solution (green politics) and the terms in which it is written (scientific accounts). Constructivists further argue that studying the social construction of an environmental claim does not necessarily dismiss the credibility of the claim:

> This focus on the implicit cultural framing of scientific knowledge does not mean that such knowledge would be debunked or denied authority. Rather the conditions of validity would be critically explored, and the tacit social and moral commitments of knowledge exposed for debate and negotiation. This would demand the negation of plural forms of science with negotiable social and cultural boundaries, and correspondingly more social struggle to articulate emergent values and fluid identities (Wynne, 1994: 188).

The debate between realists and constructivists also focuses upon the role of scientific legitimacy, practice, representation and power. As environmental problems have been linked to scientific practices, the unquestioned role of science in society and its unquestioned privileged access to power have faced increased criticism. Beck's *Risk Society* (1992) opened up a wide spectrum of sociological insight into scientific authority and has attracted attention from both realists and constructivists[4]. The result has been a multitude of interpretations of science's role in modern society and its methods of constructing knowledge of nature.

[4] Science Studies have existed long before Beck's book, but his work gained access to a wide and diverse audience.

Social constructivism had advanced a critique of science prior to the publishing of *Risk Society*. For example, Bird (1987: 255) argued that sociology should provide "social analysis of scientific knowledge construction, because many technologies that are science-based cause so many environmental problems". The analysis of scientific knowledge claims provides constructivism with the opportunity to open up an investigation into the authority and legitimacy of scientific control over environmental issues. Hannigan (1996) believes that the constructivist perspective dismisses the claims that science is able to provide absolute proof, or unequivocal evidence, of environmental problems. Science instead produces "estimates of probability which often vary widely from one to another", and this provides sociology with the opportunity to study the "creation and contestation of environmental problems" (ibid: 60).

Realists are hesitant to grant too much influence to the social factors that influence the production of scientific knowledge and still invest trust in the relationship between science and nature. They still believe in the possibility of the positive role scientific knowledge can play within modern society and argue that science "is about establishing deep-lying causal structures and mechanisms" (Dickens, 1996: 74), and that it has "a factual relationship to nature that other forms of social and cultural construction do not have" (Murphy, 1994: 205). Murphy (ibid: 207) believes the existence of environmental problems demands an increased role for scientific practices and knowledge, as the dangers produced by science "are knowable only through science". Furthermore, without adequate scientific knowledge, society would "be ignorant of the dangers of their constructions" (ibid: 217).

The realist perspective argues that science's privileged access to knowledge of nature allows for the development of a more complete understanding of nature's powers. The initial discovery of facts encourages science to "dig deeper" in order to establish "further structures and causal powers behind the layer of mechanisms already established" (Dickens, 1996: 74). Realists do not deny that discoveries of fact are social constructions, but they believe that discovery entails the establishment of "factual findings of nature's processes" (Murphy, 1997: 35). Murphy (1994: 208) believes the constructivist perspective confuses the role of science by placing too much emphasis on the social factors involved in scientific discovery. He associates

this belief with the "assumption of the facility of discovery, invention, and innovation". This realist perspective is directly opposed by constructivism, as it is accused of ignoring the significance of social activity in the production of scientific fact:

> They are surely correct to question the view that humanity controls nature, but to hint vaguely and mysteriously about the abstract causal properties of nature is perhaps to miss the more significant point that these causal properties are precisely those that scientists and technologists have tried to sniff out and control for specific purposes (Franklin, 2002: 47).

Scientists, Franklin suggests, focus upon a limited aspect of nature, (rather than establishing further structures and powers), as they are driven by specific interests which influence how natural properties are framed. Constructivists focus on the production of facts through social practices, rather than accepting an unquestioned discovery of facts. This perspective denies that science possesses privileged knowledge of the natural world. The constructionist argument claims that facts are "selectively carved out, transformed and constructed" rather than directly delivered to scientists (Knorr-Cetina 1977: 672). This does not deny the ontological existence of the natural world, but analyses the mediation between science and nature in the production of fact. It conceptualizes scientific facts as the production of scientific work, rather than accepting facts as objectively appearing to scientists in the act of discovery. This account understands the 'discovery' of the natural world as "the consequence of scientific work rather than its cause" (Latour and Woolgar, 1986: 180).

Murphy (1997: 34) believes that the constructivist view confuses the difference between "constituting reality" and "constituting our accounts of reality". This latter view denies the role of causal factors in nature in the discovery process. Rather than acknowledge the processes of nature, constructivists substitute the role of social practices for the dynamics of nature. This leads to a flawed understanding of science and nature and denies the possibility of improvement of scientific practice.

Constructivists deny the split between "constituting reality" and "constituting our own accounts of reality" as they see the two as intertwined. The role of science proposed by realists such as Murphy and Dickens is socially constructed, as it already contains a "socially constructed natural-technical object of inquiry" (Bird, 1987: 261). The descriptions and accounts produced by science also do not escape from the influence of social and cultural factors. Wynne (1994: 177) identifies "the replication of empirical observations, inference rules and logical commitments" that are inherent in modern science as being the result of specific social values and beliefs. The constructivist perspective denies the ability of science to elude social and cultural contexts and argues that "scientific knowledge tacitly reflects and reproduces normative models of social relations, cultural and moral identities, as if these are natural" (ibid: 176).

The constructivist emphasis on social and cultural factors in the scientific representation of reality again leads to the realist accusation of relativism. Realists acknowledge that social contexts and practices can influence the representation of reality, but argue that science relies upon actual, causal factors in nature during the discovery of fact and production of scientific knowledge. For realists, science is a social construction, but it is much different from other social constructions because "its specificity consists in learning about natural processes. It is a social construction having a peculiarly crucial relationship to nature, in fact, it is grounded in nature" (Murphy, 1994: 197).

Constructivists dismiss the charge of relativism, as they claim that they do not deny the existence of nature in scientific work. Instead, they question the access to reality that realists grant to science and claim that the apparent reality of the world "is never pre-given; it is an emergent property that 'depends upon the configuration of practices within which [it] becomes manifest'" (Rouse 1987: 160-1, as quoted in Demeritt, 1998: 179). The constructivist perspective focuses on the configuration of practices located within scientific discoveries to open up the social and cultural influences of science, but does not deny the ontological existence of nature outside of these practices.

The realists' belief in the existence of independent and unbiased facts that can be revealed by science informs their analysis of power in scientific practice. Realists acknowledge that dominant social groups are able to exercise power over science through their use of scientific discoveries to advance their own interests. Murphy (1994: 201) also argues that dominant groups are able to take advantage of "the incompleteness of scientific knowledge" for their own private gain. This relationship still does not discount the existence of independent causal factors in nature. In fact, for Murphy (1997: 36), it is the incomplete knowledge of the causal factors in nature that enables the sciences to function ideologically.

The constructivist perspective also analyzes the role of power in scientific accounts and practices. Wynne (1994: 176) explains that power is exercised through our representation of nature. These representations not only "disclose a 'world', but that representation is a worldly practice." Power is evident in the representations of the world as representations can naturalize power relations that exist in society. Ideas that exist counter to these representations can be ignored in order to reproduce the social relations that are made possible by representations. Constructivists are therefore able to open an investigation into the interrelationship between dominant social groups and science through the analysis of scientific representations, practices and accounts, as constructivism denies that science has the ability to directly represent independent causal properties of nature.

2.4.4 Political Implications

Critics of social constructivism argue that the perspective leads to political paralysis, as it is unable to coherently advance a platform for environmental change. Murphy (1997: 54-5) aligns constructivists with conservative politics and states that "constructivists sing from the same songbook as the deniers of environmental problems, as those who wish to reproduce the status quo dismiss environmental problems as mere social constructions". He believes that "if social constructivism did not already exist, it would have been invented in order to oppose the changes in life style and in profitability needed to reduce the degradation of the natural environment" (ibid: 55). Realists argue that an emphasis on social constructions "risks denying the

existence of environmental problems" and could be "used to undermine strong environmentalist claims for the protection of the natural world" (Irwin, 2001:24).

This leads Soper (1995: 8) to believe that the realist position is "the only responsible basis from which to argue for any kind of political change whether in our dealings with nature or anything else". She acknowledges the influence of discursive practices, but dissents "from any position which appeals to this truth as a basis for denying the extra-discursive reality of nature". Soper argues against a perspective that grants reality to "culture" but not to "nature" which is similar to Latour's (2003: 29) position when he asks; "Are the facts discovered by sociologists and economists so much stronger than the ones constructed by chemists, physicists and geologists"? Soper (1995: 9) does, however, recognize the importance of cultural influences in the definition of nature, in order to offer "convincing grounds for challenging the pronouncements of culture on what is or is not 'natural'".

The constructivist perspective argues against these criticisms and replies that constructivism "opens up the cultural choices, economic judgments and ethical assumptions at the heart of environmental decision-making" (Irwin, 2001:24). The constructivist perspective goes beyond the argument over how to best use scientific knowledge and opens up a much broader investigation into the foundations of modern society. Wynne (1994: 188) argues that the "reflexive critical examination which it helps to provide of late-modern society's deeper identifications with modern science as (instrumental and standardizing) culture is an essential component of an authentic and constructive response to global change in its widest sense." Constructivism is therefore able "to highlight value choices, challenge epistemological assumptions and avoid recourse to unjustifiable certainties" (Irwin, 2001: 170-1) and challenge "existing political and cognitive framings of the environment rather than simply taking them at face value." This approach creates the opportunity to liberate those who are oppressed through the claim of an essential nature (Soper, 1995: 8).

Constructivists highlight the many meanings and consequences associated among social relationships with nature. Soper (1995: 2) acknowledges that throughout history nature has been represented in many ways and has been utilized by a wide variety of ideologies. This is evident in Aristotle's definition of nature, which stated

that, "some men are by nature free, and others slaves, and that for these latter slavery is both expedient and right" (1998: 17). This is also evident in the definition of homosexuality in the Bible, which states that homosexual acts are "unnatural" (Rom. 1:26-27). Deluca states that "nature is an elastic historical and political concept that is shaped to justify social programs" and identifies several authors that have argued this point[5] (2001: 310). This pattern is summed up in the following quotation from Emma Goldman:

> Poor human nature, what horrible crimes have been committed in thy name! Every fool, from King to Policeman, from flathead parson to the visionless dabbler in science, presumes to speak authoritatively of human nature. The greater the mental charlatan, the more definite his insistence on the wickedness and weakness of human nature. Yet, how can anyone speak of it today, with every soul in prison, with every heart fettered, wounded, and maimed? (Goldman, 2005: 22).

Constructivism would therefore highlight how unquestioned and universal definitions of nature in the past (and present) have been used to justify oppressing certain groups[6]. The concept of nature has been socially constructed in many different ways throughout history and its meaning today still eludes a universal definition. MacNaughten and Urry state that:

> The very idea of nature has been analyzed as having multiple and even oppositional meanings: it can refer to the essential quality or character of something: the underlying force which lies behind events in the world; the entirety of animate and inanimate objects, and especially those which are threatened; the physical as opposed to the human environment and its particular ecology; and the rural or countryside (as opposed to the town or

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[5] Raymond Williams, Mary Douglas, Carolyn Merchant, Neil Evernden and Donna Haraway (Deluca, 2001: 310).

[6] Noam Chomsky and Michel Foucault debated the existence of human nature and freedom in a popular 1971 televised debate. Chomsky argued that the belief in an essential human nature leads to the establishment of more emancipatory societies, while Foucault does not accept a fixed human nature and questions how the concept of "freedom" would be used in a classless society (Chomsky, et al, 2006).

city) and its particularly visual or recreational properties (MacNaughten and Urry, 1998: 7-8).

Constructivists argue against a universal definition of nature and propose a more open, debatable approach to the concept of nature that attempts to avoid the justification of ideological relationships. Braun and Castree (1998: 272) argue that universal definitions of nature "have been a major reservoir feeding numerous ideologies" and the constructivist perspective of multiple natures "sharpens the contradictoriness and undercuts the ideological power of 'nature' as social explanatory" (ibid: 272).

When nature is viewed as something that was not, is not or cannot be fixed, and is instead viewed as the result of a series of practices, the belief in a single nature is abandoned. This perspective does not ignore the material existence of physical environments, such as water sources, but instead understands the existence of water forms as part of a number of possible outcomes that can be viewed as material, cognitive and symbolic constructions (Eder, 1996: 21-32).

2.4.5 Conclusion

Several key concerns within the debate will be addressed throughout the explanation of an approach that incorporates elements of both Adorno's negative dialectics and Latour's nonmodern perspective. Moving beyond the dichotomy of nature and society, the perspective this thesis uses argues that both are "conjointly constituted, or mutually contingent" (Freudenburg, 2000: 105). This approach does not define nature and society as "pre-existing tendencies" that "can explain it all", instead it treats nature and society as "feats and co-constructions" (Demeritt, 1998: 498). To achieve this, it is argued that "humans and non-humans form networks within which it becomes impossible to tell where one ends and the other begins" (Irwin, 2001: 174). While a constellational framework is utilised within the thesis, the perspective departs from Benjamin and Adorno's concentrated focus on concepts and their belief in the separated and entwined relationship between the subject and object. Instead, this

approach examines "sites of encounter between human and nonhuman agency" (Pickering, 2001:165) by studying the activities of the Irish bottled water industry.

Rather than argue that the mediating role of concepts enable phenomena to participate in the existence of ideas, I aim to develop an approach that focuses on the mediating role of practices which enables human and non-human agency to co-construct a mutually contingent socio-nature. The agency of humans and nonhumans allows certain entities to participate in the existence of socio-natural outcomes, while also actively working to exclude other entities from the process. In order to achieve this, I incorporate certain aspects of Actor Network Theory (ANT) to examine the alliances formed during the construction of natural-social outcomes. Insights provided with the theoretical tools of ANT are analysed within Adorno's constellation model to interpret the significance of Irish bottled water and its role in producing a version of the socio-natural that exists in contemporary Ireland. The next section will begin a discussion of how Theodor Adorno's work is able to address certain concerns raised by the realist-constructivist debate.

2.5 Theodor Adorno and the Actuality of Philosophy

Theodor Adorno (September 11, 1903 – August 6, 1969) was born into a German bourgeois family and his father was a wine merchant. He was one of the most influential members of the Frankfurt School era of critical theory (Friedman, 1981; Jay, 1984a; Jay 1996, Wiggershaus, 1995), and he has been celebrated as the most "dazzling" (Bronner, 1994: 180) of the Frankfurt School theorists, while also being criticised for his "crankiness" (Vogel, 1996: 188). Bookchin believed that simply calling him "pessimistic" is "a cheap shot" and that despite certain disagreements with his political stance, he felt that Adorno was the "most anarchic" of the Frankfurt School members (1982: 79). Habermas (1987) developed fundamental criticisms of Adorno's work but provided a generally positive description of his former teacher:

> Adorno was a genius; I say that without reservation ... [He] had a presence of mind, a spontaneity of thought, a power of formulation that I have never seen before or since. One was unable to grasp the emerging process of Adorno's

> thoughts; they emerged, as it were, finished ... By all notable standards, Adorno remained anti-elitist (Habermas, 1992: 119).

Adorno delivered his inaugural address, titled "The Actuality of Philosophy", to the University of Frankfurt on May 7, 1931. Throughout his speech, Adorno criticised his contemporary philosophers while proposing an alternative sociological approach to the natural sciences. Several points of Adorno's criticism are related to the constructivist-realist debate found within environmental sociology today and this dissertation suggests that a revised version of his constellation approach can provide a new way "to reflect the co-construction of nature and culture" in order to transcend the existing "barren dichotomy" (Lash, Szerszynski, and Wynne, 1996: 6).

Adorno (1977: 120) attacked Heidegger's phenomenological approach for only being able "to stand over a round and closed reality", and for striving for an objectivity which Heidegger originally opposed. Similarly, the realist perspective has been described as claiming an "objectivity of environmental problems that has 'an ultimately real (or natural) character'" (Irwin, 2001: 164). This leads some critics to claim that the realist perspective implies "that there is one correct or best interpretation of the environment" (Yearley, 2002: 278).

"The Actuality of Philosophy" also criticises Kierkegaard on the grounds that his thinking is a "leap into transcendence" and is "an inauthentic and empty act of thought" (Adorno, 1977: 123). Scheler is also questioned for abandoning "reality to a blind impulse with a relationship to the heaven of ideas that is dark and problematic, and leaves room for only the weakest trace of hope", thereby "dialectically revoking itself" (ibid: 122-3). Murphy (1994: 196-7) voices a similar despair about constructivism, proclaiming that it "has degenerated into a one-sided conception of its own, but from the other side" and that it aids the interests of the status quo.

Adorno (1977: 125) provided his philosophical strategy in his opening speech to the University of Frankfurt by arguing that philosophy should not act as "poor ornamental cover for faulty thinking" and should therefore not allow itself to be contained within the empirical categories or the unquestioned results of the natural sciences. He compares the goals of philosophy to the act of trying to unravel a riddle, rather than

trying to follow a path forged by applying universal concepts. It therefore seeks to explore what lurks behind reality's appearance, rather than attempting to create concepts and categories that imitate reality's appearance. Borrowing from Walter Benjamin (1977), Adorno sought to avoid the blind adoption of established patterns of thought and he instead aimed to ensure his method of study would not ignore the material studies found in the natural sciences. He further explains:

> Philosophy has to bring its elements, which it receives from the sciences, into changing constellations, or, to say it with less astrological and scientifically more current expression, into changing trial combinations, until they fall into a figure which can be read as an answer, while at the same time the question disappears. The task of philosophy is not to search for concealed and manifest intentions of reality, but to interpret unintentional reality, in that, by the power of constructing figures, or images (*Bilder*), out of the isolated elements of reality, it negates (*aufhebt*) questions, the exact articulation of which is the task of science, a task to which philosophy always remains bound, because its power of illumination is not able to catch fire otherwise than on these solid questions (Adorno, 1977: 125).

Adorno's proposal therefore would not dismiss outright scientific studies that might examine the chemical properties of water. Rather, he believes philosophy can incorporate such a study in the construction of a constellation that pursues a different aim from natural sciences. For example, the scientific methods involved in the study, the use of certain scientific equipment, the political influences on the study and other issues could be simultaneously examined within a constellation in order to produce a much different description than the one produced by the natural sciences. The answer provided by Adorno's constellation explores how the scientific findings are, (either intentionally or unintentionally), linked to other material or symbolic structures.

The constellation framework influenced Adorno's demands on philosophy's interpretive capabilities, his dialectical style of thought and his unique writing style. This style has been described as giving "the impression of stones forever being thrown into a lake forming various large rings simultaneously and sequentially, which at times lie side by side, at times tangentially, and at times flow into one another. But

all of the stones move one and the same water" (Putz, 1981: 112 This structural format was adopted in this current study. The analytical chapters (Chapters 5-9) are presented in a sequence in which the marketing, regulatory and industrial activities "lie side by side ... and at times flow into one another". The strategy of this thesis seeks to present the analysis of the empirical findings as "dialectical, materialist activities of thought which participate self-consciously in the process of social change" (Buck-Morss, 1977: 111).

Adorno's method did not conform to divides between philosophical and academic disciplines. Instead, he incorporated elements of each in the construction of constellations. However, Adorno's work begins with the separation of the natural and social worlds and this issue has been addressed in the recent work of Bruno Latour and Actor Network Theory.

2.6 Bruno Latour and the Nonmodern World

Bruno Latour (1941) was born into a "typical French provincial bourgeoisie" in Burgundy and was part of a family that was involved in wine production for generations (Crawford, 1993: 248). Latour's work, while not part of a "school" or "institute", has been associated with several other works, such as Bijker and Law (1994), Callon (1986; 1993), Law (1992; 1994), which have established Actor Network Theory. This theoretical perspective has been able to open up many new approaches to studying scientific knowledge and practices. Actor Network Theory developed in the wake of the publication of Foucault's *The Order of Things* (Clark 2005), although there are not many parallels made with Foucault's work, and there have been no connections established with the work of Adorno and the Frankfurt School. As Foucault himself has admitted, he was not aware of the connections between his work and that of the Frankfurt School:

> Now, the striking thing is that France knew absolutely nothing – or only vaguely, only very indirectly – about the current of Weberian thought. Critical Theory was hardly known in France and the Frankfurt School was practically unheard of ... The understanding that might have been established between

> the Frankfurt School and French philosophical thought – by way of **the history of science** and therefore the question of rationality – never occurred (Foucault 1988: 26).

The understandings that could have been developed from a dialogue between the Frankfurt School and Foucault did not take place and Foucault believed that if there was a connection made earlier in his career, he "would not have said a number of stupid things" and that he "would have avoided many detours which I made" (ibid: 26). Foucault's interpretation of critical theory is much different to the one developed by Bruno Latour. During *An Interview with Bruno Latour* (Crawford, 1993), Latour states many of his theoretical positions, including his strong disagreement with critical theory[7]. He also identifies a key feature of his research focus, which is an interest that is present over his entire academic career:

> From the beginning I felt my interest in philosophy, theology, and anthropology was the same thing--that is, *I was trying to account for the various ways in which truth is built*, so in that sense my current work on the theory of enunciation is an old interest (Crawford, 1993: 249).

This is one of the central differences between the works of Latour and Adorno. While Adorno focuses on what is left out in the production of truth claims, Latour is interested in how a truth claim "is built" and, in a sense, what is "left in". This thesis incorporates Adorno's concern for what is left out, or the "nonidentical", within a framework that addresses how "truth" and other outcomes are constructed.

Adorno's theoretical concerns led him to address what he believed to be false divides between subjectivity and the materiality of the physical world, while Latour has argued that the ontological divide between the Social and the Natural should be dropped. Rather than explaining a dialectic force within Enlightenment thought (Adorno and Horkheimer, 1997), Latour instead claims that "We Have Never Been Modern" (1993). This work argues against Adorno and Horkheimer's approach, and

[7] Throughout the interview, Latour refers to critical theory in a very negative, but general way (see Crawford, 1993). He does mention some theorists (Foucault, Lyotard and Baudrillard), but does not provide a lengthy explanation of his key disagreements, nor does he provide a convincing argument against critical theory.

attacks the insistence upon the division of society (representation of the human) and nature (representation of the nonhuman).

Like Adorno, Latour would be critical of a theoretical stance which focuses entirely on a "postmodern" or "existentialist" position that would not acknowledge the material aspects of the physical environment. For different reasons, Latour argues against the "opposing poles" of the realist/positivist-constructivist divide:

> If you accept the argument that we are in the nonmodern world (and this is not a new event since we have never been modern--the revolutions that were supposed to cut us off from our past have never occurred), then the debate between constructivism and realism reopens in a productive way. I think the one traditional line with realism on one end and constructivism on the other is now being crossed by a transverse line which shows that you do not need to believe in the existence of either of these two poles. In other words, neither the social groups nor objective nature play the role that is expected of them--of Durkheimian sociology on the one hand, or of realism in the sciences on the other (Latour in Crawford, 1993: 260-261).

Rather than believing there is a divide between humans and nonhumans, Latour believes that theorising should begin in "the Middle Kingdom", and that nonhumans should be incorporated within theory:

> In science studies we have, all along, been studying phenomena that have the characteristics of being narrative, collective, and outside. They are quasi-objects; they are not of our own making. We build them collectively, and they are narrated. That is it: real, narrated, social. It is perfectly simple. Now if these characteristics are put together, you have the trace--the trajectory in a network. (Latour in Crawford, 1993: 264)

Latour's focus on quasi-objects (hybrids) will be explored at greater length later in Chapter 3. Here it is noted that, similar to his interest in how "truth is built", Latour is interested in how "quasi-objects" are built. He examines their construction within a network that includes "object-discourse-nature-society". This focus generally ignores

what is left out at the end of the construction process and does not aim to establish broader theoretical critiques of the structures than influence construction processes.

Latour's theory, which he himself calls "too simple", ignores and misunderstands political structures and implications. His use of Actor Network Theory generally avoids questions relating to the political economy. Furthermore, while Bookchin finds anarchic elements within Adorno, Latour dismisses anarchism which he views as "reactionary" and believes that their concerns of domination are "invented"[8]. He believes that the death of socialism occurred with the fall of Berlin Wall[9] and believes that you cannot "believe a word" of socialism. Latour (2003: 30) also enjoys conflating political ideologies, as is seen with his observation that, "constructivism is like the word 'Republic': the more adjectives you add 'socialist, islamic' the worse they become".

Latour's theoretical stance has recently been shaken by his poorly informed political position. He cites a diagnosis of prostate cancer, as well as the popularity of September 11th conspiracy theories, as reasons for his transformation into being a "critical realist" (Latour, 2004). This is an interesting development of his thought, as similarities exist between conspiracy theorists and Latour. As Cockburn (2006) has identified, many of the September 11th conspiracy theorists lack a basic understanding of the political economy, which is a weakness in many of Latour's own arguments.

Latour's focus on the construction of truth and quasi-objects ignores many important factors that influence their construction, such as structural and political economic influences on construction processes. It is for this reason that Adorno's constellational approach, which attempts to counter the political implications of "identity thinking" and capitalism, will be used to inform the structure of this study.

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[8] 'Feyerabend demonstrates the reactionary politics of the anarchists. They are the ones inventing the domination because they want to define their position in that way in order to get into a position of power. Intellectually or politically it is exactly the same position: it is believing in the existence of a center of power that is findable, touchable. It is exactly this possibility that has completely disappeared with the death of socialism. And it is quite interesting that the modern and the postmodern disappear at exactly the same time that you get socialism and, of course, naturalism disappearing' (Latour Crawford, 259-260).

[9] A more realistic view is that socialism was helped by the fall of the Berlin Wall

2.7 Theodor Adorno and the Idea of Natural-History

2.7.1 Introduction

Adorno's proposed method of study is illustrated in his treatment of nature in the essay, "The Idea of Natural-History". For Adorno (1984: 111), the concept of nature was "vague and its exact sense can not be given in preliminary definitions but only in the course of analysis". He opposed the formulation of an ultimate definition, and instead aimed to open up the dialectical aspects of the term by positioning it alongside the concept "history". By juxtaposing these two concepts, Adorno aimed to push "these concepts to a point where they are mediated in their apparent difference" (ibid: 111).

Adorno positions the concepts of nature and history as completely separate entities and then attempts to demonstrate their mutual interdependence. Latour starts from the moment of interaction, and argues that the results of this entwinement produces hybrids of socio-natural environments. The work of both theorists address the issues of nature's "autonomy" and the divide between society and nature found in various theoretical perspectives and within the perspective evident in Orpen's painting of The Holy Well. This thesis, like Adorno's essay, positions two theoretical perspectives next to each other to highlight the tensions between each. Adorno's negative dialectics utilizes a critique of instrumental reason to demonstrate what is left out of socio-natural outcomes, while Latour and Actor Network Theorists focus on the agency of nonhuman entities to show how alliances are formed and included within socio-natural outcomes. The next section provides an overview of Adorno's essay to explore how Adorno proposed to study the interaction between society and nature.

2.7.2 The Idea of Natural-History

Adorno aims to show how the divide between history and nature is a false absolute, and he therefore intends to demonstrate how nature is socialized and society is part of nature. Hullot-Kentor (1984: 99) states that "the idea is the dialectic that can be extracted from a literal analysis of the term's ambiguity: the history of nature is nature

grasped as historical; natural history is the historical grasped as natural". Adorno uses this method to show the continual interrelationship with the concepts of transience and signification:

> The basic quality of the transience of the earthly signifies nothing but just such a relationship between nature and history: all being or everything existing is to be grasped as the interweaving of historical and natural being. As transience all original-history is absolutely present. It is present in the form of "signification". "Signification" means that the elements of nature and history are not fused with each other, rather they break apart and interweave at the same time in such a fashion that the natural appears as a sign for history and history, where it seems to be most historical, appears as a sign for nature (Adorno, 1984: 121).

Adorno situates the concepts of history and nature at their furthest extremes, but also argues that the two concepts cannot be separated from one another:

> History can be considered from two sides, the history of nature and the history of mankind. Yet there is no separating the two sides; as long as human beings exist, natural and human history will condition each other (Adorno, quoted in Jarvis, 1998: 40).

Adorno concludes "The Idea of Natural History" by proposing a constellational philosophical method of inquiry and he draws upon Lukács' *The Historical Novel* (1981) and Walter Benjamin's *The Origin of the German Tragic Drama* (1977) to present the elements of a constellation of nature. Adorno is interested in Lukacs's concept of second nature; a concept Adorno (1984: 117) understands within a framework "modeled on a general historico-philosophical image of a meaningful and a meaningless world (an immediate world and an alienated world of commodities)". Adorno drew from Lukács description of a totally meaningless nature by locating the social within nature. Similarly, Adorno believes Benjamin locates nature within the social through an allegory in *The Origin of the German Tragic Drama*. Adorno feels the allegory illustrates the "historical relationship between what appears - nature - and its meaning, i.e. transience" (ibid: 119). Through the combination of Lukacs' second

nature and Benjamin's allegory, Adorno proposes the development of a constellation to investigate the meanings of nature and history.

The constellational structure does not seek to clarify concepts, but instead groups together "a constellation of ideas", so that ideas such as "transience, signification, the idea of nature and the idea of history" (ibid: 120). Adorno's goal is not to seek out definitions of each of these ideas, but instead proposes to examine how the different ideas "gather around a concrete historical facticity that, in the context of these elements, will reveal itself in its uniqueness" (ibid: 120). This strategy works in a direction that is different to the one later proposed by Bruno Latour and Actor Network Theory. Rather than asking, like Latour does, how hybrids are produced, Adorno asks how his selected elements cohere and what is excluded or damaged during this cohesion.

Adorno argues that an investigation of the relationship between society and nature must involve the acknowledgement that nature itself is historical and that society contains natural elements:

> Nature itself is transitory. Thus it includes the element of history. Whenever an historical element appears it refers back to the natural element of history. Whenever an historical element appears it refers back to the natural element that passes away with it (Adorno, 1984: 120).

Adorno's theoretical aim throughout "The Idea of Natural History" is to demonstrate the interrelationship between society and nature as he attempts to describe how they compliment each other. While this approach attempts to incorporate more of the "natural" or "material" into social theory, it insists upon maintaining a divide between the social and the natural. Both Adorno and Latour have stated that material objects should be incorporated into social theory and the approach taken in this project acknowledges the material existence of water as independent of discourse. Adorno acknowledges not only the existence of material objects outside of discourse, but also

the subjective characteristics of physical objects[10]. Latour (2005) views physical objects as "actants", and assigns agency to nonhuman actors in actor-network theory. The differences between Adorno and Latour start to more clearly develop when society and nature are considered as separate entities.

Latour's criticism of theorists situated at either extreme of the constructivism-realism suggests that these positions ignore the many entities and actions that produce each outcome. Latour's position therefore questions the initial acceptance of a divide between nature and society, as this starting point ignores how versions of society and nature are constructed. Adorno also criticized the belief in the divide between nature and society, which he called both true and false. For Adorno (1990: 359), the divide "expresses what the moment of nature underwent", but it is "false, in so far as it apologetically recapitulates, by conceptual reconstruction, history's concealment of its own natural outgrowth". Latour and Adorno therefore share common targets of criticism, yet suggest different strategies in trying to overcome the deficiencies identified in other theoretical perspectives. This interrelationship will be utilized throughout this thesis in both the theoretical and analytical chapters that follow in order to develop a revised sociological approach that incorporates elements of both Critical Theory and Actor Network Theory.

2.8 Conclusion

Adorno (1996) suggested that one way radio could counter the presentation of ready-made products of music was by broadcasting the rehearsals of various groups. This strategy would show how the final performance involved many attempts by a series of entities, each of which cannot be guaranteed to be stable or totally reliable. Musicians can fail to perform, the audience can distract, instruments can be out of tune and a number of other factors influence the outcome of a variety of actions. The rehearsal implies both an uncertainty within the performance as well as the alignment between groups in order to produce the desired outcome.

[10] Adorno (1990: 179) also emphasizes the material, or objective, characteristics of the human subject, and stated that "It is not true that the object is a subject, as idealism has been drilling into us for thousands of years, but it is true that the subject is an object".

Adorno's analogy of a rehearsal has been used in this thesis rather than Latour's example of a river that flows between two river beds, as the rehearsal implies more of a shared belief or motive that influences the coordination of various entities and activities in the production of a planned outcome. This thesis seeks to explore material and symbolic elements within a series of social practices that constitute the Irish bottled water industry. It will focus on the human and non-human agency located within a series of interconnected networks of practices. Similar to a rehearsal, the networks examined each involve a number of uncertainties within entities as well as alliances between entities. There are also shared ideological beliefs and motives that coordinate various activities: marketing networks are organised in order to produce a connection to consumers and to add value to bottled water products, regulatory networks seek to establish a scientific order to govern and assist industrial activities and industrial networks are driven to maximize profit through a highly organised regime of activities.

Adorno's general strategy of juxtaposing two very different concepts and interpreting the mediations between them within his essay, The Idea of Natural-History, has influenced this present study. While Adorno focused on conceptual definitions, the approach used here is the juxtaposition of contingent, collusive and contradictory directions of human and nonhuman praxis. In the outcome, or product, of poesis and praxis, Latour's collective approach, which focuses on what has been "left in", is incorporated within Adorno's negative dialectical approach, which focuses on what has been "left out". It is the mediation between these two activities that I argue proves to be a useful point of study for environmental sociology.

The incorporation of both human and non-human actants, of both material and symbolic entities and also considering what is left in and what is left out, better demonstrates not only Adorno's (1984) notion that nature is "transitory nature, or history", but that co-constructions of society and nature are transitory, contingent and contested. This emphasis acknowledges Lukács's concern regarding the reification of the second nature (the built environment), as it presents the notion that the construction of nature is dynamic and involves the participation of human praxis (Vogel, 1996). While Vogel himself acknowledges this point, he does not incorporate

enough of the conceptual mediations that take place before or during the production of the socio-natural environment.

This chapter aimed to identify the direction of the theoretical analysis that will be applied in subsequent analysis chapters. Adorno's strategy was to take the conceptual definitions of society and nature, and juxtapose the two in order to demonstrate how the two are always entwined. This thesis follows a similar strategy, but from a different starting point. It begins with the outcome of the Irish bottled water industry, and then seeks to trace how human and nonhuman entities are actively involved in its production and maintenance.

In this sense, the approach avoids Adorno's insistence of the "entwinement" of society and nature, as the term implies the close association between two distinct entities. Instead, this approach examines how various entities produce alliances through a variety of semantic and materialist networks of activities. It is therefore viewed more as "collaboration" rather than "entwinement", which ascribes agency to all entities involved. The next chapter will provide further detail of how this revised theoretical perspective can be incorporated into environmental sociology by demonstrating how relates to several key issues that have been raised in the constructivism-realism debates.

Chapter 3 Constellational Framework and Hybrid Formations

3.1 Introduction

The aim of this chapter is to explain the development of a revised form of Adorno's constellation method and explain its usefulness for environmental sociology. It will continue with arguments introduced in the previous chapter by incorporating the work of Bruno Latour and other Actor Network Theorists into the constellation model constructed by Theodor Adorno and Walter Benjamin. This perspective will therefore move away from attempting to establish the "entwinement" or "reconciliation" of the two separate entities of "nature" and "society", and will instead develop a theoretical framework that will be able to interpret the collaborations between human and nonhuman entities that produce socio-natural outcomes.

The explanation of Adorno's constellation model must incorporate the influence of Walter Benjamin, which has been previously demonstrated by Susan Buck-Morss (1977). The works of Benjamin, particularly *The Origin of the Greek Tragic Drama* (1977), played a critical role in the development of Adorno's thought.[1] Adorno's understanding of the role of philosophy, as mentioned in the previous chapter, provides insight into why he adopted Benjamin's method of study. Adorno did not aim to establish a theoretical approach that constructed universal concepts or definitions, but instead sought to critically examine the results of identity thinking through negative dialectics. Benjamin's constellation provided the necessary method for Adorno to illuminate the relationship between the particular and the universal in identity thinking. Walter Benjamin did not merely share new ideas with Adorno, but rather, through his own work, he demonstrated to Adorno the possibility of "another kind of thinking" (Jameson, 1990: 52).

Through his groundbreaking works *The Origin of the German Tragic Drama* and *The Arcades Project*, Benjamin proposed a radically different approach to the

[1] Adorno's inaugural lecture (1984: 120) to University of Frankfurt was to be dedicated to Benjamin in published form, but the planned publication did not take place.

understanding of ideas that represented an inversion of Platonian theory and a revision of Kantian thought (Buck-Morss, 1977). In contrast to Plato's claim that "the ideas as truth appear in the phenomena", Benjamin maintained that "the phenomena appear as truth in the ideas" (ibid: 92). Benjamin's conceptualization proposes that the essence of the particular would not be found through abstraction or through equation with the general, as "the general was contained within the particular. The smallest unit, the extreme, the detail - these were the source of truth" (Buck-Morss, 1972: 138). For Benjamin, "the idea is a monad - that is, in short: every idea contains the image of the world" (Benjamin, 1969: 32 as quoted in Buck-Morss, 1972: 138). Benjamin therefore proposed to examine the construction of ideas by beginning his focus on particular phenomena. He argued that concepts arrange phenomena in order to construct ideas and also that concepts reproduce ideas in phenomena. This demonstrated the mediating role of concepts with constellations.

Further, Benjamin "used empirical reality in constructing metaphysics, he fused the 'intelligible' and empirical realms which Kant saw as unalterably opposed" (Buck-Morss, 1977: 93). Benjamin's ideas are therefore "denied an existence independent of phenomenal being" (Wolin, 1997: 99). This approach led to Benjamin's development of constellations, (also called configurations), since "ideas are not represented in themselves, but solely and exclusively in an arrangement of concrete elements in the concept: as the configuration of these elements" (Benjamin, 1977: 13 quoted in Wolin, 1997: 99). This strategy produces a method that incorporates both material and symbolic elements and does not assign priority to either.

Benjamin believes that ideas are nothing without the constituent objects within their composition and stated that "ideas are to objects as constellations are to stars" (Benjamin, 1977: 15). Constellations would not form without stars, just as ideas cannot be constructed without objects:

> In his theory each 'idea,' each construction out of the particular, was self-contained. As a 'monad', each contained the totality, a 'picture of the world,' yet each differed from every other idea. Constellations were 'discontinuous'. Like atoms, like cells, like solar systems they each had their own center: without hierarchy, they stood next to each other 'in perfect independence and

> unimpaired.' It followed that in constructing ideas it was continuously necessary to return to the phenomena themselves, the more so as the ideas were not eternal but historically specific constellations. Hence philosophical description 'begins anew with every idea' (Buck-Morss, 1977: 94).

The dynamic element of the constellation suggests that ideas are also historically specific and in a state of flux. Changing the makeup of a constellation, by revising or incorporating different phenomena and concepts, would change the idea constructed by the constellation. This characteristic allowed Adorno to develop a method of study that did not define reality as a closed, or pre-existing system. Instead, the constellation provided Adorno with a creative style of thinking that would not have to conform to traditional schools of thought.

Adorno's constellation is therefore used to "to signify a juxtaposed rather than integrated cluster of changing elements that resist reduction to a common denominator, essential core, or generative first principle" (Jay, 1984: 14-15). Constellations, for Adorno, are not fixed or universal systems, and "are nothing in themselves but a relation between (necessarily time-bound) particulars" (Jarvis, 1998: 176). Adorno drew from the work of Weber to formulate this approach, specifically his method of "composing" rather than defining concepts[2]. Weber's essays are subjectively constructed and, likewise, Adorno's (1990: 165) constellations are "subjectively produced, and these subjectively created contexts are converted into objectivity through language". Adorno (ibid: 165-166) believed that Weber's compositions "are not conceptual fixations. Rather, by gathering concepts round the central one that is sought, they attempt to express what that concept aims at, not to circumscribe it to operative ends".

[2] Adorno (1990: 164-66) links it with Max Weber's "ideal type". Hekman (1983: 122) states that "the ideal type is based on a distinctive process of selection and synthesis which sets it apart from the conceptual tools of the other branches of science. Weber identifies two features of this process. First, the category of facts from which an ideal type is constructed must be seen in its "cultural significance," that is, in the meaning which the social actors bestow on their actions. Second, the synthesis of selected aspects of this category of culturally significant facts must take cognizance of the relationships of meaning and significance logically compatible with the theoretic interest informing the investigation and the logic of the social actors' concepts".

The constellational framework designed for this study is presented by incorporating a discussion of several key themes that have developed within the realism-constructivism debate. The chapter borrows from the strategy employed by Adorno and Horkheimer in *Dialectic of Enlightenment*, where they used examples from *The Odyssey* as a template to discuss the dialectical tendencies within Enlightenment thought. This chapter will follow a similar path, but will instead use Adorno and Horkheimer's *Dialectic of Enlightenment* as a template to examine themes within the realism-constructivism debate. This discussion is then used to demonstrate where this constellational framework is theoretically located with respect to contemporary perspectives and how this framework can contribute to current debates.

3.2 *Dialectic of Enlightenment* and Translations

3.2.1 *Dialectic of Enlightenment*

In the *Dialectic of Enlightenment*, Adorno and Horkheimer developed an analysis of domination that went beyond the traditional Marxist focus on class and instead focused their criticism on instrumental reason and self-preservation. Both instrumental reason and self-preservation are critiqued though Adorno's analysis of identity thinking. The criticism produced within the *Dialectic of Enlightenment* begins with rationalism rather than class struggle, since the struggle for survival produces a rationalism that "gears thinking towards identifying, controlling, and organizing a hostile and potentially dangerous environment" (Hammer, 2005: 45) in order to secure the life of an individual. Adorno and Horkheimer argue that through the processes of identity thinking, the self, which meant to be preserved, ends up being sacrificed. This development is similar to the predicament of Enlightenment thought, which Adorno and Horkheimer implicate in the construction of oppressive and violent social conditions rather than the establishment of social freedom. Enlightenment thinking required the domination of nature, which subsequently led to domination within society. Delanty observes that:

> In this work, enlightenment does not refer to the age of the Enlightenment. It is less an age than an attitude, or a cultural disposition, a human condition. Enlightenment refers to the quest for knowledge, a quest which is alleged to be closely bound up with power: to seek knowledge is to wield power, first over things and then over human beings (2000: 53).[3]

Their work therefore placed the concept of nature at the centre of social theory and was unprecedented in social theory up to that time. While they believed that enlightenment thought was a prerequisite for social freedom, both felt that it also had the capability to produce domination and oppression. Adorno and Horkheimer (1997: 3) pronounced the failure of Enlightenment's promises by stating that "the Enlightenment has always aimed at liberating men from fear and establishing their sovereignty. Yet the fully enlightened earth radiates disaster triumphant". They illustrate the dialectic component of Enlightenment by explaining, that "myth is already Enlightenment; and Enlightenment reverts to mythology" (ibid: xvi). Adorno and Horkheimer believed that the destructive social relationship with nature remained a blind spot within Enlightenment thought and that if this was not corrected, the Enlightenment would continue to wreak havoc rather than sponsor liberation. This forms the foundation of their work:

> We are wholly convinced - and therein lies our *petitio principii* - that social freedom is inseparable from enlightened thought. Nevertheless, we believe that we have just as clearly recognized that the notion of this very way of thinking, no less than the actual historic forms - the social institutions - with which it is interwoven, already contains the seed of the reversal universally apparent today. If enlightenment does not accommodate reflection on this recidivist element, then it seals its own fate. If consideration of the destructive aspect of progress is left to the enemies, blindly pragmatized thought loses its transcending quality and, its relation to truth (ibid: xiii).

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[3] Bookchin (1981) believes domination, or hierarchy, appears first between human beings, then leads to a domination of nature.

Adorno and Horkheimer use the story of the *Odyssey* as an analogy to describe the consequences of Enlightenment's relationship with nature. They cite the seductive song of the Sirens as an example of the subjective and mythic aspects of nature. Odysseus, used as an example of the enlightened individual, instructs his crew to tie him to the ship's mast in order to deny himself the pleasure of the Sirens. Adorno and Horkheimer argue that this act represents the enlightened individual's voluntary decision to alienate himself from pleasurable aspects of Nature that were previously experienced through acts of mimesis. Vogel states that "the oneness with nature that the mythic era expresses through mimesis appears under enlightenment as a tempting and everpresent possibility, but also as death, as loss of the self ... Natural bonds are exchanged for social ones, self-imposed" (1996: 53). Odysseus feels he must deny both internal and external nature in order to continue with his journey, so he chooses survival instead of pleasure. Odysseus's view of the Sirens song forbids him from enjoying both their song and being able to continue with his journey, so he only chooses to do the latter[4]. This action is used by Adorno and Horkheimer to illustrate the dialectical relationship between self-preservation and nature.

3.2.2 Only One Sirens' Song?

The example from the *Odyssey* reveals many of the weaknesses of Adorno and Horkheimer's general argument. By citing specific subjective aspects of nature in the pleasurable aspects of the Sirens' song[5], they initially begin their analysis with a claim of "objective knowledge of what nature is like prior to the mediating activity of humans whose possibility the text itself denies" (Vogel, 1996: 71). The direction of their analysis therefore begins with a preconception of what nature actually is and then moves toward their analysis of a social practice. The same holds true with their understanding of Odysseus. They explain his actions with a pre-existing idea of the type of society, (one produced by Enlightenment thought), in which he lives.

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[4] For a further discussion of Odysseus's ability to accomplish both pleasure and survival, see (Sherratt, 2002: 219-221)

[5] Lee also provides an overview of feminist critique of the sirens and women in Dialectic of Enlightenment (2005: 41-48).

Ignored in this method of analysis is how Odysseus came to understand the song of the Sirens as so tempting and pleasurable. It is simply taken for granted and not given any serious thought. The focus of their analogy is also revealing. The central relationship under analysis is the Enlightened thought driving Odysseus and the subjective pleasures provided by the Sirens. The acts of Odysseus become the point of mediation between the two. This direction of analysis denies the possibility that the acts and experiences of Odysseus, his crewmates and his ship might work to produce different perceptions and outcomes[6] from the ones Adorno and Horkheimer use to begin their analysis. As Latour (2003: 41) would see it, Adorno and Horkheimer aim to describe "the ultimate ideal", which is "namely what has not been built at all by any human hand".

The belief in pre-existing subjective aspects of nature is an interesting inversion of Marxist thought. Adorno and Horkheimer were clearly influenced by the work of Marx, as were other members of the Frankfurt School (Jay, 1996). The influence of Marx can be found throughout critical theory, but in the *Dialectic of Enlightenment* Adorno and Horkheimer opened up a more significant understanding of the concept of nature than is found in traditional Marxist theory. Marx assigned a subservient role to nature and believed that "nature without man has no sense, no movement. It is chaos, undifferentiated and indifferent matter, hence ultimately nothing" (Marx, as quoted in Schmidt, 1971: 97). For Marx, and indeed others[7], the significance of nature lay only in its relation to the process of human labour. Nature was viewed as nothing more than raw material and it was only with the transformation of nature into commodities that Marx principally concerned himself[8]. He stated that:

> The material of nature alone, in so far as no human labour is embodied in it, in so far as it is mere material and exists independently of human labour, has no value, since value is only embodied labour (Marx, as quoted in Schmidt, 1971: 30).

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[6] Perhaps some wouldn't find the Siren's song (or certain aspects of the natural world) enjoyable?

[7] All human action whatever consists in altering, and all useful action in improving, the spontaneous course of nature (Mill, 2004: 64).

[8] John Bellamy Foster (1999) has found that Marx was concerned with a "metabolic rift" in the social-natural dynamic. While this acknowledges deficiencies in the capitalist philosophy, it still views the physical environment in terms of scientific measurements that can be used for industrial production. This view would still approach nature as a "warehouse of goods".

Eder understands Marx's interest in nature as being based in property relations, which led to an indifference to the material aspects of nature outside of the production process (1996: 10). This view of nature as "meaningless matter", was one found throughout many schools of thought in Marx's time and leads Grundmann to comment that the Marxist perspective is "a test case for the integrity of the modern discourse on nature" (1991: 109).

3.2.3 Translations

Adorno and Horkheimer (1997: 208) did not dismiss the potential of the Enlightenment and argued that Enlightenment was "in possession of itself and coming to power can break bounds of enlightenment". They instead felt that Enlightenment thinking had to acknowledge its dialectical nature by developing a more critical understanding of the subject-object relationship, and it is through this revision that Enlightenment thinking could repair the damaged relationship between society and nature. Adorno and Horkheimer proposed a theoretical perspective that recognized the necessary interrelations between society and nature and therefore argued against a division between society and nature that attempted to construct isolated versions of either case, as is done through both idealism and positivism. Bernstein (2001: 197) sees this revised anthropomorphic nature as "part of a wholly secularized and truly historical 'enchanted' world":

> Animism attributes life, a living soul, to even the nonliving, spiritualizing it thereby. Animism is gross anthropomorphism. The systematic and methodological terms that enabled enlightened thought to overcome animism, namely, the displacement of objects' sensuous particularity, necessarily "removed" life from living things as well since life belongs essentially to the *individual* organism; individuals live, die, decompose, return to the inorganic material world (Bernstein, 2001: 191-192).

In contrast, Latour (1993: 137) opposes the idea of "anthropomorphic nature" and casts out the term "anthropomorphic" as he believes it "considerably underestimates our humanity". Instead, Latour believes:

> We should be talking about morphism. Morphism is the place where technomorphisms, zoomorphisms, phusimorphisms, ideomorphisms, theomorphisms, sociomorphisms, psychomorphisms, all come together. Their alliances and their exchanges, taken together, are what define the *anthropos* (ibid: 137).

Latour suggests shifting the focus of theoretical enquiry to the moments where humans and nonhumans interact and argues against the preliminary division of society and nature. Denying this interaction, from Latour's view, denies humanism. These contrasts between Latour and Adorno will inform the remainder of this chapter.

Adorno and Horkheimer's perspective in the *Dialectic of Enlightenment* differs greatly from the approach adopted by Latour and other members of Actor Network Theory. When nature is viewed as part of an outcome of contingent activities, it is viewed as something that is more dynamic than static. This can be understood in relation to the water used within the Irish bottled water industry. The idea of water in the scientifically defined "pure" state of H2O is determined after a series of scientific claims and knowledges that define it as "pure". Furthermore, water that only contains H20 is not found within any of the aquifers located in Ireland, as the water can be affected by a series of interactions with both human activities (agricultural, industrial, etc.) and nonhuman activities (rainfall, rock formations, etc).

Latour's shift in focus away from the subject-object relationship found in the *Dialectic of Enlightenment* leads into his difficulties with the method of dialecticians, who he believes are practitioners of the modern thought he seeks to avoid. For Latour, dialectics is only able to investigate the interaction that takes place on the horizontal plane between the subject and object. This ignores the significance of Latour's (1993: 55) "quasi-objects", which are located "in between and below the two poles, at the very place around which dualism and dialectics had turned endlessly without being able to come to terms with them". Dialectics focus entirely on the oppositional

mediations between subject and object poles, but Latour believes the result of this study is that "their very opposition is retained and abolished - that is to say, denied" (ibid: 57). This denial is one of the major tenets of Latour's modern Constitution[9]. Dialectics highlight the contradiction between the subject and object but fails to acknowledge the contradiction between modern thought and quasi-objects. Adorno and other critical theorists are not willing to recognise that subject and object are constructed from the middle, rather than beginning at either end of two poles.

Latour critiques what he names the "modern Constitution" for its denial of hybrids. Citing Schafer and Shapin's (1985) analysis of the debate between Robert Boyle and Thomas Hobbes[10], he believes modern thinking strives to enforce the work of "purification", or the separation between politics (society/subject) and science (nature/object), while simultaneously ignoring the work of translation, or the creation of hybrids and quasi-objects through the work of translation[11].

This criticism is also applicable to Adorno's belief in the continual mediation of society and nature. While Adorno and Latour would agree that society and nature are inseparable, each provides a different explanation for this condition. Adorno believes that the attempted separation of the two at the initial stages of social theory leads to oppressive circumstances and therefore their interconnection must be acknowledged. Latour dismisses the possibility of their separation and instead argues that each is co-constructed from a collective of social practices which he defines as "translations".

Latour's (ibid: 10) notion of translation is the process of creating "mixtures between entirely new types of beings, hybrids of nature and culture". Moderns simultaneously justified and abolished the existence of hybrids by defining each hybrid as a

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[9] "Modernity is often defined in terms of humanism, either as a way of saluting the birth of 'man,' or as a way of announcing his death. But this habit itself is modern, because it remains asymmetrical. It overlooks the simultaneous birth of "nonhumanity" – things, or objects, or beasts – and the equally strange beginning of a crossed-out God, relegated to the sidelines. Modernity arises first from the conjoined creation of these three entities, and then from the making of the conjoined birth and separate treatments of the three communities while, underneath, hybrids continue to multiply as an effect of this separate treatment" (Latour quoted in Crawford, 1993: 261).

[10] In Leviathan and the Air-Pump, Shafer and Shapin interpret how Boyle was able to succeed in the debate with Thomas Hobbes. Their conclusion is that the success of Boyle's experiment required both social and natural control, and he incorporated social, material and literary strategies throughout his campaign.

[11] Callon (1986) and Law (1987) have also developed theoretical arguments on the process of translation.

combination of both a pure form of the social and a pure form of the natural. An example of this would be Adorno's *Idea of a Natural-History* (1984), which was discussed in the previous chapter. Following the continued separation and recombination of society and nature within hybrids, Latour (1993: 78) believes moderns "multiplied the intermediaries in order to reconstruct the unity they had broken and wanted none the less to retrieve through blends of pure forms". Rather than approaching mediation from either of the two extremes of social and nature (i.e. Adorno), Latour proposes that we switch the direction of this analysis and instead move from the point of mediation towards the social and the natural. He argues that we should only consider the act of purification as only one specific type of mediation and replaces the focus on intermediaries with chains of mediators.

Latour's (ibid: 90) revised understanding of mediation incorporates the idea of quasi-objects, "which are real as Nature, narrated as Discourse, collective as Society, existential as Being". He further defines quasi-objects as:

> Much more social, much more fabricated, much more collective than the 'hard' parts of nature [the focus of natural sciences], but they are in no way the arbitrary receptacles of a full-fledged society [the focus of social sciences]. On the other hand they are much more real, nonhuman and objective than those shapeless screens on which society - for unknown reasons - needed to be 'projected' (Latour, 1993: 55).

The construction and reproduction of quasi-objects takes place at the point of mediation through a series of networks. Like quasi-objects, networks are simultaneously real, narrative and collective. Collectives within networks, which incorporate both human and non-human actors, construct and distribute meanings through their agency. This agency "is conceptualized as the collective capacity of humans and nonhumans to act; it is an effect of these heterogeneous networks" (Fitzsimmons and Goodman, 1998: 208). Further, the outcomes of these networks represent the combination of human and non-human actors, "not their separate or their rigidly distinct domains" (Franklin, 2002: 60).

Similar to the strategy employed by Adorno during his analysis of definitions and identity thinking discussed later in this chapter, the work of translation emphasizes the contingent characteristics of outcomes. These outcomes would include the work of both the social and natural sciencies, which Callon (1986: 199) defines as "equally uncertain, ambiguous, and disputable", therefore making it "no longer possible to have them playing different roles in the analysis". The contingency found in both identity thinking and translations is not settled by merely random occurrences, and instead are influenced by ideological and material currents. The following section will discuss the ideological and material factors that have influenced the practices that produce socio-natural hybrids.

3.3 From Myth to Science

An initial case study of social practice within *Dialectic of Enlightenment* is the act of mimesis. Adorno and Horkheimer believed that prior to the Enlightenment, social thought and practice placed humans within nature. These myths and rituals were done as part of superstitions, but nevertheless nature contained meaning for these societies. This system of beliefs became the target of criticism, as can be seen in Orpen's painting in Chapter 2. Similar to Orpen's criticism in his depiction of The Holy Well:

> Enlightenment has always taken the basic principle of myth to be anthromorphism, the projection onto nature of the subjective. In this view, the supernatural, spirits and demons, are mirror images of men who allow themselves to be frightened by natural phenomena (Adorno and Horkheimer, 1997: 6).

Myth, within the Enlightenment perspective, was the result of an overemphasis on a subjective interpretation of nature, but was also a result of a fear of nature. Enlightenment's goal of demythologization was the elimination of the subjective approach embedded within anthropomorphism and the substitution of an objective definition of nature (Merchant, 1982). Adorno and Horkheimer (1997: 3) introduce the program of the Enlightenment as "the disenchantment of the world; the dissolution of myths and the substitution of knowledge for fancy". True to their dialectical style,

they believed that Enlightenment thinking was already present in myth, as many magic rituals were ends orientated. For example, some rituals were performed to satisfy gods in order to achieve successful crop yields. Rather than basing itself solely in subjective interpretation, "myth intended report, naming, the narration of the Beginning; but also presentation, confirmation, explanation: a tendency that grew stronger with the recording and collection of myths" (ibid: 8).

Adorno and Horkheimer (ibid: 4) criticized the applauded "success" of the victory of rational thinking over an anthropomorphic nature, which celebrated how "the human mind, which overcomes superstition, is to hold sway over a disenchanted nature". They believed the advance of a purportedly objective understanding of nature is only possible through the creation of an objectified world. Their perspective was also strongly influenced by the writings of Max Weber and Friedrich Nietzsche. Weber argued that the increasing rationalization of society led to a disenchanted world in his critique of modern society. He was sceptical of the notion of progress, as he questioned whether scientific progress had "any meanings that go beyond the purely practical and technical" (Weber, 1991: 139). Weber argued that the advance of rationalization did not "indicate an increased and general knowledge of the conditions under which one lives", but it instead meant that "technical means and calculations now perform the service" of mythical rituals in mastering nature (1991: 139).

For Adorno and Horkheimer (1997: 5), "the disenchantment of the world is the extirpation of animism" as the advance of rationalization required society to "renounce any claim to meaning". Disenchantment of the world required the removal of mimesis (a subjective relationship with nature) from the relationship between society and nature. In its place, the Enlightenment substituted a relationship that sought to objectively classify and define nature. Nature is therefore stripped of any significant meaning and is only "comprehended mathematically; even what cannot be made to agree, indissolubility and irrationality, is converted by means of mathematical theorems" (Adorno and Horkheimer, 1997: 24-25). This relationship with nature presents a meaningless world to individuals, and inevitably leads to an alienated experience with both nature and the self. Stone defines the disenchantment of nature as relating to several key characteristics:

> (1) that we have ceased to see nature as an inherently meaningful order; (2) that we have come to assume that nature is devoid of mastery, wholly accessible to our understanding; and (3) that we no longer find nature 'sacred', people by divine or demonic beings and worthy of reverence or dread (Stone, 2006: 231).

Enlightenment's utilization of instrumental reason reduces science to a tool, whose "sole remaining goal is simply the perpetuation of its co-ordinating activity" (Horkheimer, 2005: 92). Putz (1981: 106-7) notes that reason therefore no longer asks "why" and instead is marginalized to the question of "how". This reduces the attention of science "only to the instrument and not to the conditions for the possibility of its own activity". The consequence of this scientific practice reproduces a meaningless nature and a meaningless individual.

Nietzsche, beginning in *The Birth of Tragedy*, argues that such a science leads to a "self-individuating consciousness, illustrating it through the example of a one-dimensionally fixed and crippled life" (quoted in Putz: 1981: 108). The inevitable consequence is a science that is unable to be self-reflective:

> A science so conceived no longer reflects on itself, its impulses, goals and interests, which it flatly contradicts. Reason has become 'purposeless purposiveness' and 'science is not conscious of itself; it is only a tool'. The mathematization and mechanization of science lead to the domination of facts and nature, to ever refined contrivances for self-preservation and entrepreneurship, but it prevents calling science into question from an epistemological standpoint (Adorno and Horkheimer, 1997: 89 as quoted in Putz, 1981: 106).

Adorno agreed with Nietzsche's criticism of science, as they both dismissed the traditional philosophical goal of separating the subject and object in order to attain a "pure" truth. The separation attempts to establish a "thing itself". However, Nietzsche disagreed with the idea of an object existing "only 'for itself'" (quoted in Putz, 1981: 107). This approach to nature "is incapable of perceiving the subjective side of every cognitive act" and is therefore unable to recognize "the 'rational

interest'" that guides science (ibid: 107). It therefore strives to produce a universal, ahistorical identity of the object. Adorno and Horkheimer (1997: 8) identify this motive throughout Western philosophy and believed that "unity is the slogan from Paramenides to Russell. The destruction of gods and qualities alike is insisted upon".

The unreflective use of science provides Adorno and Horkheimer (ibid: 6) with evidence that "Enlightenment still recognizes itself in myth", as with each purported advance in technology, reason "becomes more deeply engulfed in mythology" (ibid: 10-11). Instrumental reason is entrenched in mythology as it fails to be fully rational by suppressing, "rather than reflecting on, its own relation to myth and tradition" (Jarvis, 1998:22). For Adorno and Horkheimer (1997: 16), "Enlightenment is mythic fear turned radical", as "whatever does not conform to the rule of computation and utility is suspect" (ibid: 6). The failure of the Enlightenment to recognize the continuous mediation between subject and object leads to alienation and domination:

> Myth turns into enlightenment, and nature into mere objectivity. Men pay for the increase of their power with alienation from that over which they exercise their power. Enlightenment behaves toward things as a dictator toward men. He knows them in so far as he can manipulate them. The man of science knows things in so far as he can make them. In this way their potentiality is turned to his own ends (ibid: 9).

Adorno and Horkheimer (1997: 28) believed that "animism spiritualized the subject" within traditional myth, but "industrialism objectifies the spirits of man" through Enlightenment thought. The subjectivity of both the subject and the object is removed during the separation of subject and object. The object becomes meaningless matter whose only function is to be classified, while the role of the subject is merely to take part in the classification process. The social is removed from the natural and the natural is removed from the social. The consequence of this process is the removal of "cultural elaborations", "historical formations and transformations" and "contingent and historically conditioned practices" from the relationship between society and nature (Bernstein, 2001: 189). This new relationship produces a "desocialized nature (disenchantment), and a denatured society, which is the explanation for society itself becoming desocialized, that is, an iron cage dominating persons" (ibid: 188).

3.3.1 Disenchantment and Domination of Nature

It is through the disenchantment of nature that Adorno and Horkheimer address a central theme within their work: the domination of nature. The criticism of domination was evident in Adorno's early writings and explicit in his Kierkegaard study, while Horkheimer incorporated the concept into his work years later (Snow, 1977: 113). Horkheimer (2005: 105) believed that "the principle of domination has become the idol to which everything is sacrificed". Jarvis (1998: 27) argues that the consequence of "domination over nature is paid for by the naturalization of social domination", as it becomes a reified social relationship through its permeation across all social spheres:

> Domination, ever since men settled down, and later in the commodity society, has become objectified as law and organization and must therefore restrict itself. The instrument achieves independence: the mediating instance of the spirit, independently of the will of the master, modifies the directness of economic justice. The instruments of domination, which would encompass all - language, weapons, and finally machines - must allow for themselves to be encompassed by all (Adorno and Horkheimer, 1997: 37).

The argument of a dominated, or disenchanted, nature has been questioned by recent social theorists. Latour (1993: 114) dismisses the notion of a "disenchanted nature", claiming that modern thinkers (moderns) like to "frighten themselves with their own destiny". He believes this system of thought is endemic to modern thinking, which tries to explain massive effects with equally massive, or "prodigious" causes. This approach confuses "products with processes" and fails to recognize the fraternity of what Latour calls "collectives". A similar criticism is presented by Thrift:

> One of the most damaging ideas that has swept the social sciences and humanities has been the idea of a disenchanting modernity (Thrift, 1996). This act of purification has radically depopulated thinking about Western societies as whole sets of delegates and intermediaries have been consigned to

> oblivion as extinct impulses, those delegates and intermediaries which might appear to be associated with forces of magic, the sacred, ritual, affect, trance and so on (Thrift, 2000: 44).

Vogel (1996: 62) also questions Adorno and Horkheimer's intended meanings of the phrase, "domination of nature". Rather than assume that it means that society is dominating, or strictly controlling, nature, he asks if it can mean something entirely different:

> Might it not also be interpreted as a possessive, suggesting conversely that a vengeful and unforgiving nature dominates *us*, inevitably mocking our desperate attempts to overcome it? What conclusion should we draw from the "dialectics of enlightenment" whose paradigm is Odysseus – that contemporary society dominates nature and should not, or that it (so to speak) unfortunately doesn't dominate it *enough*, because nature in fact always returns to outwit us and take its revenge (Vogel, 1996: 62).

The revenge of nature, as imagined by Adorno and Horkheimer, takes a much different form from the one proposed by certain realist perspectives. Realists warn of the potential revenge of nature's objective forces (i.e. environmental degradation, global warming), if social constructivists and others continue to place too much emphasis on subjective concerns. Adorno and Horkheimer see nature's revenge within elements of anti-Semitism[12] and through the alienation of living in a meaningless world if modern society continues to place too much emphasis on objective concerns.

> This is an interesting turn because civilization and nature are often treated as separate spheres that experience only tangential contact; yet, Horkheimer and Adorno's analysis rests on the interconnection of nonhuman nature and humanity, an interconnection at the root of Western civilization's return to barbarism (Deluca, 2001: 310).

[12] Bookchin (1982:19n) describes the result of the domination of nature as "the killing ground" rather than the "hunting ground" as used by Adorno and Horkheimer.

Adorno and Horkheimer attempt to address the philosophical themes that help coordinate interactions between humans and nonhumans. They maintain the position that while nature and society are separate, they should be understood as interconnected or entwined. The position of *Dialectic of Enlightenment* seeks to reveal how the understanding of the interconnection has been lost and attempts to show how this perspective leads to catastrophic consequences for nature, society and the individual. Elements of Adorno and Horkheimer's criticisms of science and instrumental reason are found in the current debate between constructivism and realism. These points include the adoption of a relativist perspective and the questioning of science's ability to "know nature", and are discussed in the following sections.

The idea of dominating nature, or living in a disenchanted world, highlights the results of certain social practices and cognitive perspectives. However, it also addresses a central concern throughout all of Adorno's work: identity thinking. The following section will examine Adorno's criticism of identity thinking, as Adorno's insights provide useful ways of understanding the many practices that contribute to the production of Irish bottled water.

3.3.2 Identity Thinking

Horkheimer and Adorno's *Dialectic of Enlightenment* makes several critical investigations into the project of the Enlightenment and a central, if not always explicit, feature of the analysis is the relationship between the subject and object. This method of analysis borrows from the works of Karl Marx and, most importantly, continues his tradition of dialectical thinking. Adorno further develops his ideas of the subject-object relationship in his later work, which led him to analyse the areas of identity thinking, the continual mediation between subject and object and nonidentical thinking. This section returns to Adorno's work and revises some of his ideas with the recent work of Bruno Latour.

A central component of Adorno's analysis asserts that a continuous mediation takes place between subject and object and that each constitutes the other. He believed "the thinking subject was not pure consciousness but was itself object - corporeal, sensual man, a piece of nature whose material objectivity could not be made to disappear in a dialectic of pure consciousness" (Buck-Morss, 1972: 141). Adorno (1998: 249) believed the object must also be understood as a subject as the "object cannot be known except through consciousness, hence it's also subject". The mediation between the subject and object is a process that continually produces new meanings between two entities that are necessarily interrelated. He writes:

> The social process is neither solely society nor solely nature but human metabolism with the latter, permanent mediation between the two instances. The natural element present at all stages cannot be extracted from its societal form without harming the phenomena (Adorno, 1972 in Wehling, 2001: 159).

It is from this point that Adorno grounds his analysis of the subject-object relationship and develops his ideas of the relationship between society and nature. Adorno's perspective was constructed in opposition to what he felt were the extreme positions of positivism and idealism. He offers a useful alternative to these approaches, as he believes both material and symbolic elements should be included within social theory. However, Adorno continues in the tradition of separating nature and society and begins the analysis of their combination from each of their opposite positions.

Adorno argued that the pursuit of a universally fixed identity of the object, an aim of many philosophical schools of thought, ignored the dialectic nature of both the subject and object. The establishment of fixed concepts is unable to recognize the changing nature of the object, which led to the inevitable exclusion of dynamic meanings within the object and to the alienation of a subject faced with a world of meaningless objects. Adorno proposed a philosophical alternative to identity thinking through the focus on the "nonidentical". This new approach begins by investigating the act of definition and by pursuing what Adorno describes as a negative dialectical method.

Adorno believes that social theory should pay attention to the contradictory and, at times, similar meanings of the subject and object to better understand the act of

definition and subsequent production of identity. For Adorno (1998: 246), "the 'subject' can refer to the particular individual as well as to universal attributes of 'consciousness in general'". Furthermore, the object, or, other, can be understood as that which "refers to whatever the human knower or agent is thought to constitute or generate" (Zuiderrat, 1991: 250). Adorno (1977: 125) believes the object is not "ahistorically identical and transcendental, but rather assumes changing and historically comprehensible forms". The dialectical nature of both the subject and object makes the creation of universal concepts a dubious objective, as the subject and object are both involved in a continual process of mediation.

Adorno approaches the relationship between subject and object by focusing attention on the production of absolute definitions within identity thinking. For Adorno (1990: 145), "every definition that appears noncontradictory turns out to be as contradictory as the ontological models of 'Being' and 'Existenz'". This perspective reveals another strong Nietzchean influence in Adorno's thinking. Both Nietzsche and Adorno "agree in the reflective denial of every finality" (Putz, 1981: 111). Adorno argues against the traditional goal of producing a unified meaning of a concept and states that:

> Defining means as much as subjectively, by means of a rigidly applied concept, capturing something objective, no matter what it may be in itself. Hence the resistance of subject and object to the act of defining. The determination of their meanings requires reflection on the very thing the act of defining truncates for the sake of conceptual manageability. Therefore it is advisable to start by taking up the words "subject" and "object" such as they are handed down by the well-honed philosophical language, as a historical sediment; not, of course, sticking to such conventionalism but continuing further with a critical analysis (Adorno, 1998: 246).

A sceptical attitude towards universal and authoritarian definitions is a central feature in Adorno's thought. This point is further elaborated upon by Raymond Williams:

> Some people, when they see a word, think the first thing to do is to define it. Dictionaries are produced, and, with a show of authority no less confident

> because it is usually so limited in place and time, what is called a proper meaning is attached. But while it may be possible to do this, more or less satisfactorily, with certain simple names of things and effects, it is not only impossible but irrelevant in the case of more complicated ideas. What matters in them is not the proper meaning but the history and complexity of meanings: the conscious changes, or consciously different uses: and just as often those changes and differences which, masked by a nominal continuity, come to express radically different and often at first unnoticed changes in experience and history (Williams, 1980: 67-68).

The defining act produces an ahistorical concept, as it removes all aspects of history from the object. Nietzsche also argued this point and "understood that the relation of subject and object is forever historically determined anew, namely on the basis of determinate existing conditions, interests and valuations" (Putz, 1981: 108). Adorno therefore does not suggest the pursuit of a fixed historical etymological course, as history itself is a "constantly changing relation of all individuals, groups, strata and classes in their social totality" (Putz, 1981: 109). This perspective is opposed to Passmore's suggested method of understanding nature:

> The word 'nature' derives, it should be remembered, from the Latin *nascere*, with such meanings as 'to be born', 'to come into being'. Its etymology suggests, that is, the embryonic, the potential rather than the actual. We speak, in this spirit, of an area still in something like its original condition as 'not yet developed' (Passmore, 1974: 32-33).

Adorno believes history, including the historical relationship between subject and object and the historical relationship between society and nature, undergoes continual negotiation and mediation. He argues against the search for a universal beginning or development of nature, as "the category of the root, the origin, is a category of dominion", and, "the origin - seductive because it will not be appeased by the derivative, by ideology - is itself an ideological principle" (Adorno, 1990: 155). This opposes the idea of a universally historical conceptualization of the object and further opposes the creation of a "hypostatized" categorical concept. The establishment of a fixed categorical concept is done only through its claim to an "order-creating

invariance as against the change in what it covers" (ibid: 153) and to a correspondence to the object that "represents some inner truth" and is "somehow 'like'" the object (Jameson, 1990: 20). The concept's claim to a fixed definition subsumes "a great variety of different, really existing objects under the same term or thought" and "implies a historical moment in which universals come into being, in which abstractions are wrested from the primal flux of sheer names" (ibid: 20). The defining act that produces a fixed concept objectifies the given object and produces a marked separation between the subject and object.

3.3.3 Nonidentical

Adorno maintains that it is impossible to ever grasp what something "really is" and thereby avoids any claims to total or universal definition. Rather than the pursuit of a fixed concept, "an alternate or complementary description emerges negatively, in the direction of what identity excludes" (ibid: 22). Adorno (1990:5) presents a method that rests upon the principle of contradiction, since "objects do not go into their concepts without leaving a remainder" and "the concept does not exhaust the thing conceived". The focus of negative dialectics is the critique of the main objective of identity thinking, which Adorno viewed as a process that aimed to create a concept that could fully detail the object it aimed to describe. Adorno's dialectics analyses the categories produced by identity thinking to explore what has been excluded. Adorno's method proposes "not absolute identity, this time, not the concept, not Being, but nonidentity, facticity, entity" (ibid: 136). This method avoids the production of a fixed identity, which Adorno believed acted in the reproduction of ideological structures:

> The supposition of identity is indeed the ideological element of pure thought, all the way down to formal logic; but hidden in it is also the truth moment of ideology, the pledge that there should be no contradiction, no antagonism. In the simple identifying judgment, the pragmatist, nature-controlling element already joins with a utopian moment (Pickford, 2002).

The 'non-identical' is that which "recoils from being subsumed under universal concepts and norms" and "can never be completely fixed by any universal description; it can always be newly described" (Brunkhorst, 1999: 58). Adorno focuses upon the aspect of the object that escapes the categories of a concept and employs an investigation of the particular. Adorno explains the process of creating concepts for the particular:

> The concept of the particular is always its negation at the same time; it cuts short what the particular is and what nonetheless cannot be directly named, and it replaces this with identity. This negative, wrong, and yet simultaneously necessary moment is the stage of dialectics. The core, which is also abstract in the idealist version, is not simply eliminated. Its distinction from "nothing" means that - contrary to Hegel - even the most indefinite "something" would not be downright indefinite. This refutes the idealist doctrine of the subjectivity of all definitions. The particular would not be definable without the universal that identifies it, according to current logic; but neither is it identical with the universal (Adorno, 1990: 173).

Adorno's focus on the particular can be revised to better suit an approach that focuses on collectives. Wehling (2001:158) believes that rather than understanding the nonidentical as an object beyond social mediation, "we should conceive of 'nonidentity' as difference within any mediation, thus being not a substantial but a relational category". This is still bound to the shortcomings of Adorno's theory, as it approaches mediation from the wrong direction. Instead, the nonidentical should be considered as that which is not contained in the co-constructions of nature and society. An example of this can be found when Adorno (1990: 320) stated that "no universal history leads from savagery to humanitarianism, but there is one leading from the slingshot to the megaton bomb". The movement from a slingshot to a megaton bomb would contain a series of collectives that include certain elements and exclude others.

Wehling (2001: 158) wants to move away from Adorno's primacy of the object and towards "the primacy of mediations between or of relations between subject and object, society and nature". This again addresses the situation from the wrong

direction. Instead, the primacy of agency should be the focus. Moving from this direction it becomes clearer that the development of the megaton bomb is not a fixed result or outcome, but instead one which has included certain practices and excluded others. It is this switch from a focus on the continual mediation between subject and object to a focus on human and non-human agency that provides the starting point of a more accurate depiction of social practices:

> Negative dialectics works to regain the consciousness of nonidentity between present society and the concepts with which it understands and justifies itself, such as "opinion", "freedom", or "progress". The utopian "rational identity" provides the implicit normative standard against which the historical formation and deformation of concepts can be appraised and the possibility of ideology critique, and ex hypothesi the possibility of change, prised open (Pickford, 2002: 322).

This separation is evident within both realism and social constructivism. The subject in realism "stands coolly apart from its object in order to manipulate it", which leads to "an instrumental relationship to the world, a world on which it unreflexively projects the scientifically ascertainable traits it claims merely to discover" (Jay, 1984a: 62-3). On the other hand, strong constructivism "assumes that the world is the product of consciousness that recognizes itself in its objective creations" (ibid: 63). The latter approach ignores the material aspects of the object and aims to reduce the understanding of the object to subjective categories. Within both of these approaches, an ideological relationship is established:

> As soon as it is fixed without mediation, the separation becomes ideology, its normal form. Mind then arrogates to itself the status of being absolutely independent - which it is not; mind's claim to independence announces its claim to domination. Once radically separated from the object, subject reduces the object to itself (Adorno, 1998: 246).

Adorno's critique of identity thinking did not suggest a complete avoidance of definitions, as definitions are an integral part of thought. Adorno (1990: 149) believed in the productive capabilities of thinking, and felt that "the force of thinking"

is "the force that shatters the appearance of identity". However, definitions did not require a fixed nature, or an ahistorical approach to the object:

> In dialectics, however, it is not total identification that has the last word, because dialectics lets us recognize the difference that has been spirited away. Dialectics can break the spell of identification without dogmatically, from without, contrasting it with an allegedly realistic thesis. The circle of identification - which in the end always identifies itself alone - was drawn by a thinking that tolerates nothing outside it; its imprisonment is its own handiwork (Adorno, 1990: 172).

3.3.4 Revision of Negative Dialectic's Focus

The proposed beginning and products of Adorno's analysis have been criticised by theorists such as Bruno Latour (1993), who asserts that Adorno and other dialecticians are imprisoned by their own handiwork. He criticizes the predetermined definitions of subject and object and argues that this divide is only an outcome or result, not a beginning. Latour (ibid: 78) defines the subject-object relationship as the "contrary, partial and purified results" of a collective's "practice that produces things and people". It is in the production of these results that Adorno's identity thinking can be applied to his own thought.

Adorno criticised the ontological models of "Being" and "Existenz" for containing contradictions and Latour applies the same analysis to Adorno's "subject" and "object". Moving beyond the strictly human definition of the subject, Latour employs the concept of collectives to include both human and non-human actors. It is through these collectives that the results of society and nature are generated. Rather than argue, as Nietzsche and Adorno do, that the "relation of subject and object is forever historically determined anew", Latour proposes that the outcome of what it is to be subject and object is forever historically determined anew on the basis of human and non-human agency within a network of social practices.

Latour (2003: 31) therefore highlights what "slips out", or is not included, within Adorno's conceptual focus on the nonidentical and states that "if there is one thing toward which 'making' does not lead, it is to the concept of a *human actor fully in command*". The theoretical perspective developed here shifts the focus to what is included (both human and nonhuman entities, and both material and symbolic elements) within the end results of Latour's collectives, while also examining what is excluded throughout the process. This is similar to the goal of the dialectical critic as defined by Pickford, who proposed that the critic "traces out both the synchronic supplementarity and diachronic inner history of phenomena, reconstructing the web of mediations that both 'disenchants' the concepts and gestures toward its emphatic fulfilment" (Pickford, 2002: 325).

Highlighting what is left out of collectives is something which Latour (2003: 36) accuses his "worst enemies", (the critical sociologists), of pursuing "more voraciously than termites" and being able to "turn into dust all the claims to solidity, autonomy, durability and necessity". This dissertation argues that in order to be self-reflective, critical thought should also address what is excluded during the process of producing varieties of the socio-natural. Similar to Adorno's suggestion that "if thinking is to be true", then "it must also be a thinking against itself" (Adorno, 1990: 365). Without acknowledging what is marginalized, excluded and oppressed within varieties of the socio-natural, then the analytical focus would remain only within the boundaries presented by contemporary conditions. Similar to Adorno's concern with that which eludes the concept, if theorising the socio-natural "is not measured by the extremity that eludes", the produced hybrid, then "it is from the outset is in the nature of the musical accompaniment with which the SS liked to drown out the voices of its victims" (Adorno, 1990: 365).

The outcomes of Latour's collectives are made possible through the work of immutable mobiles, which are further discussed in the final section of the chapter. Immutable mobiles make the alignment of various entities possible, and it is through their work that outcomes of the social and the natural are possible. Latour (1990: 59) applies this concept to various conceptual terms and instances, and believes that "once science and technology are rephrased in terms of immutable mobiles it might be possible to explain economic capitalism as another process of mobilization and

conscription".[13] Latour's collectives therefore emphasize the contingent characteristics of terms such as science and technology, as they are used to "describe the association of humans and nonhumans and 'society'" to demonstrate that "the context and the technical content turn out to be redefined every time" (1993: 4).

This approach leads Latour to question the large-scale actors he believes sociologists take for granted without ever examining their development. Rather than accept a universal definition for something like "the economy", Latour argues that it is crucial to examine the processes of mobilization and stabilization which allow things such as a national economy to develop.[14] For Latour (1990: 56), "to take the existence of macro-actors for granted without studying the material that makes them "macro," is to make both science and society mysterious". Latour therefore advises researchers to begin first with particular moments of mobilisation and then move towards the outcome of more universal terms such as "the economy".

In Adorno's (1982: 30) discussion of the aims of dialectical criticism of culture, he argues that theoretical focus should not aim "to search for the particular interest-groups to which cultural phenomena are to be assigned, but rather to decipher the general social tendencies which are expressed in these phenomena and through which the most powerful interests realize themselves". This strategy represents a movement in the opposite direction of Latour's analysis. Adorno is interested in examining an object to see how the traces of various alliances are evident within the object, whereas Latour focuses on an examining the traces of accumulation that lead to the construction of various alliances. Adorno argues that "cultural criticism must become social physiognomy", and both he and Latour engage in this task, albeit from

[13] Latour provides several examples of how collectives are created through the mobilisation of various entities. He states that, "the Navy's organization is profoundly modified by the way its offices are allied with its bombs; EDF and Renault take on a completely different look depending on whether they invest in fuel cells or the internal combustion engine; America before electricity and America after are two different places; the social context of the nineteenth century is altered according to whether it is made up of wretched souls or poor people infected by microbes; as for the unconscious subjects stretched out on the analyst's couch, we picture them differently depending on whether their dry brain is discharging neurotransmitters or their moist brain is secreting hormones" (Latour, 1993: 4).

[14] Latour believes "the problem is that these entities could not exist at all without the construction of long networks in which numerous faithful records circulate in both directions, records which are, in turn, summarized and displayed to convince. A "state," a "corporation," a "culture," or an "economy" are the result of a punctualization process that obtains a few indicators out of many traces" (Latour, 1990: 55).

somewhat different directions. While Adorno is interested in opening up cultural products to examine the existence of social structures and relationships within the product, he also takes aim at "culture" itself. Similar to Latour's understanding of large-scale actors, Adorno stresses the interconnections that are necessary in producing the outcome of culture:

The greatest fetish of cultural criticism is the notion of culture as such. For no authentic work of art and no true philosophy, according to their very meaning, has ever exhausted itself in itself alone, in its being-in-itself. They have always stood in relation to the actual life-process of society from which they distinguished themselves. Their very rejection of the guilt of a life which blindly and callously reproduces itself, their insistence on independence and autonomy, on separation from the prevailing realm of purposes, implies, at least as an unconscious element, the promise of a condition in which freedom were realized (Adorno, 1982: 23).

Both Adorno and Latour cast critical eyes towards the acceptance of what should be considered "natural" and what should be considered "social".[15] In the approach to natural-social hybrids, Adorno treats with suspicion those things that are considered natural in social contexts. This ranges from those things that are "Familiar, stamped and Approved by Good Housekeeping" which are able to "insinuate themselves into a regressive consciousness" and "present themselves as 'natural'" (Adorno, 1982: 25). He presents an example in a lecture he gave in 1954:

> By its impersonal context, usurps the insignia of everything that appears to the bourgeois consciousness to be nature and natural. You can picture this to yourselves quite easily by reflecting on the fact that in the unthinking language of everyday (language I had always rather disliked) a man is thought to speak naturally if he speaks like everyone else, that is to say, if he is a man who conforms to general linguistic conventions. In contrast, a man who does not speak like that, who insists on the individual aspects of his own personality,

[15] Latour states that "the words 'social' and 'nature' used to hide two entirely different projects that cut across both of those ill assembled assemblies: one to make trace connections among unexpected entites and another to make those connections hold in a somewhat livable whole. The mistake is not in trying to do two things at once – every science is political... without premature closure" (Latour, 2005: 259)

> can easily gain a reputation for affectation and artificiality. I think what people irresponsibly mean by a 'natural person' is a prime example of this concept of second nature, and you can all see what is meant by it without my having to pursue this discussion further. The more relentlessly the process of societalization spins its web around every aspect of immediate human and interpersonal relations, the more impossible it becomes to recollect the historical origins of that process and the more irresistible the external semblance of something natural (Adorno, 2006: 121)

Latour has focused much of his criticism on the lazy acceptance of the term "social". Rather than begin with the "social", he believes sociology should end with the social. Latour states that the social "is not some glue that could fix everything including what the other glues cannot fix; it is *what* is glued together by many *other* types of connectors" (2005: 5). While Adorno wanted to stress the social processes hidden behind the acceptance of behaviours and attitudes as "natural", Latour seeks to reveal how many different entities are assembles together to produce what is "social". He explains this strategy through his use of Actor Network Theory and the concept of collectives:

> The question of the social emerges when the ties in which one is entangled begin to unravel; the social is further detected through the surprising movements from one association to the next; those movements can either be suspended or resumed; when they are prematurely suspended, the social as normally construed is bound together with already accepted participants called 'social actors' who are members of 'society', when the movement toward collection is resumed, it traces the social as associations through many non-social entities which might become participants later; if pursued systematically, this tracking may end up in a shared definition of a common world, what I have called a collective; but if there are no procedures to render it common, it may fail to be assembled; and, lastly, sociology is best defined as the discipline where participants explicitly engage in the reassembling of the collective (Latour, 2005: 247).

Both Latour and Adorno provide useful approaches to examining socio-natural hybrids. The approach followed in this thesis will ensure that the concept of a socio-natural hybrid does not act as a "straight-jacket" to thought, and will instead provide an analysis of empirical data which shows the dialectical nature of the influences and outcomes of what is defined as "social" and "natural".

By highlighting the excluded aspects of a hybrid, critical theory can enforce the notion that any variety of the socio-natural can be viewed as "always a conflict brought to a standstill", similar to Adorno's view of the subject of an essay (ibid: 16). The movement from what is excluded from a concept towards what is excluded from a collective is able to incorporate both Latour and Adorno's work, showing how they both compliment and contradict one another. Latour's use of "translations" demonstrates how both human and nonhuman elements are involved in the production of hybrids and this strategy is complimented by Adorno's concern with what is marginalized during the production of a concept or, in this case, a collective. The next section will develop the revised focus of a negative dialectical approach.

3.4 Parataxis and Networks of Practice

A central feature of Adorno's constellations was what he called "parataxis", which meant "placing propositions one after the other without indicating relations of co-ordination or subordination between them" (Rose, 1978: 13). Through parataxis, Adorno's constellation "implies discontinuity and lack of linear or cumulative order, and reveals that "the unity of the whole is composed of the dissociations between the discrete parts as well as their associations (Nicholsen, 1997: 96). It is through this constant negotiation that the contemplation of the concept's meaning can take place, and it is "by gathering around the object of cognition, the concepts potentially determine the object's interior. They attain, in thinking, what was necessarily excised from thinking" (Adorno, 1990:162).

The internal structure of the constellation utilises concepts surrounding the object to inform each other and avoids the construction of a universal and objective definition. Borrowing again from Weber, Adorno makes use of the methods of the ideal-type as a

format to approach the object. Like the ideal-type, Adorno's constellation acts as an "aid in approaching the object, devoid of any inherent substantiality and capable of being reliquified at will" (ibid: 164). This approach dismisses the use of internal classificatory categories that ignore the dialectic nature of objects and attempt to construct fixed definitions. Adorno's constellation instead highlights the dynamic nature of objects, as it "illuminates the specific side of the object, the side which to a classifying procedure is either a matter of indifference or a burden" (ibid: 162). This framework granted Adorno a more fluid, relevant approach to concepts, as he believed concepts "crystallize through their motion" and "are made more precise only through their relationship to one another" (Adorno, 2000: 100). Constellations are therefore able "to illuminate the shifting contours of a continually unfolding phenomenon" (Zuiderrart, 1991: 62).

The placement of concepts around the object within a constellation is structured in a non-hierarchal sequence, which refuses to privilege one concept over any another and does not subvert to a "step-by-step progression from the concepts to a more general cover concept" (Adorno, 1990: 162). Within the internal structure and movement of a constellation, like the general writings of Adorno, it is difficult to ascertain a "natural starting or ending point" (Nicholsen, 1997: 83-84), which is consistent with Adorno's conception of philosophical argument:

> From my theorem that there are no philosophical first principles, it follows that one cannot construct a continuous argument with the usual stages, but one must assemble the whole from a series of partial complexes ... whose constellation not [logical] sequence produces the idea (Adorno, as quoted in Rose, 1978:13).

Adorno's focus on the nonidentical directs attention to what has been left out from identity thinking's attempt to produce a concept to define an object. By arranging a contellation to reveal historical and social mediations that have obfuscated various components of a phenomenon, Adorno attempts to reveal elements and possibilities that have been marginalised, ignored or damaged. Latour (2004: 233), in stark contrast, focuses on how "objects" become things and claims that "a thing is, in one

sense, an object out there and, in another sense, an issue very much in there, at any rate, a gathering".

Latour's "gathering" stresses the alignment of entities that is necessary for the production of a "thing". Latour (2004: 37) interestingly tries to identify a similar distinction as Adorno did, arguing that "things that gather cannot be thrown at you like objects" and highlights the physical difference between the thing, or concept, and the object. Adorno's concern largely dealt with cognitive gaps between the subject's ability to know the object and the inability of a concept to fully grasp what truly is the object. In contrast, Latour seeks to detail what has been included, rather than excluded, in the creation of a thing.

While keeping the overall aim of constructing a dynamic internal structure to a constellation, this thesis moves away from Adorno's and Benjamin's focus on language and concepts and instead incorporates an analysis of practice and networks. The next section will discuss the importance of social practices within the creation of hybrids of socio-natural and explain how these are integrated into the theoretical perspective of this thesis. Latour (2003: 36) believes realists "link reality to the *absence* of labour", while constructionists use "labour to debunk claims to existence, solidity, necessity and durability". The next section will discuss how this thesis will avoids making either of the two mistakes highlighted by Latour.

The focus on networks of practices is a key component within the theoretical framework of this thesis. A focus on social practices is not a recent development within environmental sociology, as both material practices (in Marx) and discursive practices (constructivism) have previously been utilized. This thesis incorporates material and discursive practices, which include both human and nonhuman entities. To do this, I rely on the concept of "mimesis", found in critical theory, which informed the strategic use of practices within this perspective.

Benjamin approached his study of language with a reference to the mimetic faculty. Benjamin viewed language as:

> A refuge for the mimetic faculty, hence an archive of nonsensous similarity, in several versions, including the image of words in different languages arrayed in a configuration around a common center, and the image of similarity flashing up like a flame (Nicholson, 1997b: 77).

This theoretical perspective utilized a similar strategy, but rather than arranging a series of languages around a common center, it presents a series of practices around a common hybrid of bottled water in Ireland. Rather than follow Nicholsen's suggestion that "we may think of mimesis as the undefined foundational concept, the blank center itself, surrounded by innumerable contexts of exposition", (ibid: 83), the constellation developed in this thesis focuses on a construction surrounded by many varieties of practices. Just as Nicholsen (ibid: 83) suggests a "feeling that there is no natural starting point" in "tracing around various points in this constellation of contexts with mimesis at its center", so too will this perspective trace a number of contexts without any real starting or ending point to it.

If "mimesis is also like that blank "disfigured" center in that it remains alien despite its implication in these numerous contexts", likewise are the possibilities of production within social practices. For Nicholsen, (ibid: 77) "the enigmatic and indefinable quality of mimesis can be thought of as generating the seemingly infinite irresolvable set of contexts around it" and the same can be said around a hybrid of the socio-natural. The constellation envisaged here views the hybrid outcome of a network of practices in similar terms as the " thing" at the center of an arrangement of different languages, which "binds the dissimilar and in fact alien words together" by playing a "the role of a crucial but enigmatic blank space" (ibid: 77-78).

Benjamin believed that "the coherence of words or sentences is the bearer through which, like a flash, similarity appears. For its production by man – like its perception by him – is in many cases, and particularly the most important, limited to flashes" (Benjamin, quoted in Nicholsen, 1997a: 167). Rather than words or sentences, networks of practices can be arranged and can illuminate a "flash of similarity". This thesis has attempted to do just that, by juxtaposing networks of practices found within marketing, regulatory and industrial sectors around the hybrid of Irish bottled water.

The thesis also moves beyond Adorno's "Essay as Form" and, rather than thinking in terms of an essay, utilizes the concept of the collective. Following this revision, the "agency shifts from the all powerful master to the many 'things', 'agents' and 'actants', with which they have to share action (Latour, 2003: 31). Adorno's descriptions of the essay's concepts can be replaced with Latour's notion of a collective's quasi-objects. Not only do quasi-objects "'simultaneously occupy' a range of 'intermediary positions' located through a diverse range of practice networks (Latour, 2003: 33), but they can also viewed through Adorno's understanding of concepts within an essay as they too "multiply, confirm and quality themselves", whether in the further course of the network itself or in "a mosaiclike relationship" to other networks (Nicholsen, 1997a: 107-108)[16].

Just as language is "unable to attain the direct equivalence of word and thing and would constitute the Name", (ibid: 95), collectives are never able to produce a result that is not contingent on a variety of elements or uncontested by a variety of actants. The outcome is "never complete or pure" but, similar to Derrida's criticism of self identity, "it is always contaminated by what it tries to exclude" and "it is constituted by that which threatens it" (Newman, 2001: 4). Derrida's understanding of self-identity was addressed by Adorno's creation of the constellation, as the subjectively composed constellation "becomes legible as a sign of objectivity" by unfolding the phenomenon's inner nonidentity, its "relationship to that which it itself is not, and which its orchestrated, frozen self-identity withholds from it," i.e., its historical and conceptual mediation (Adorno quoted in Pickford, 2002: 326).

A constellation of quasi-objects can thus be understood in a similar way as a constellation of concepts, since it too is "faceted like a jewel, with several faces that point in different directions", which can demonstrate the difficulty in grasping the entirety of socio-natural hybrids, as "the various interlaced constellations and their nodes of connection flash up at one moment and are gone the next" (Nicholsen,

[16] Zuiderrart (1991: 62) identifies several descriptions Adorno produced for concepts and these descriptions are applied to the quasi-objects involved in this constellation model of this thesis: "are made more precise only through their relationship to one another", "can be viewed as being 'interwoven as in a carpet'", "reciprocal interaction", and "repudiate conclusive deduction in favour of cross-connections between elements".

1997a: 180). This demonstrates Latour's (2003: 39) point when he describes "the impossibility of absorbing the world 'in the singular' in one single chunk".

There are many varieties and "cross connections" between quasi-objects and networks of practices share a mosaic-like relationship with other practices in the constructions of socionature. The interrogation of alliances through a constellation framework juxtaposes networks of practices and illuminates the connections shared between different and, at times, contrasting practices. This allows one "to become sensitive to the contrary requirements, to the exigencies, to the pressures of conflicting agencies where none of them is really in command", while seeing that "building, creating, constructing, labouring" can be seen everywhere (Latour, 2003: 33).

Latour (ibid: 41) criticizes deconstructive analysis that "goes downhill to avoid the peril of presence" and also the analysis of what he calls "compositionism", which he believes "goes uphill to try to catch as much presence as possible". However, a constellational framework that incorporates both the excluded and included within the hybrid is able to expose the conflicts and contradictions within the processes that create the hybrid. The constellation therefore explicates the internal contradictions to yield a symmetrical structure, "so that we are shown first destruction and then authenticity, with the midpoint where the reversal occurs being explicitly marked" (Nicholsen, 1997a: 98).

It is through the continuously negotiated internal structure of the constellation that Adorno is able to develop a theoretical method that produces "a dialectical model of negations that simultaneously constructed and deconstructed patterns of a fluid reality" (Jay, 1984: 15). For Adorno, this is the only way that philosophic interpretation is possible. It is through a dialectical method that Adorno aims to counter reified thought in order to reveal the "sociohistorical reality which constitutes its [the idea's] truth" (Buck-Morss, 1977: 96). To achieve this, the constellation avoids the reliance upon "meta-historical ideas that plague traditional philosophical inquiry" and instead utilizes "inner-historically constituted, non-symbolic ones" (Adorno, 1977: 128). The acknowledgement of historical significance is also evident within the constellation's central accomplishments:

> As genealogical and societal mediations of the (hybrid) under analysis unfold, the web of the (hybrid)'s history and its mutual interdependence with what it pretends to exclude reopens the contingency of the conflict and leads thought beyond the (hybrid) by means of the (hybrid) (Pickford, 2002: 322).

This revised constellation is able to trace "the formation of (hybrids) such that they lose their semblance of self-evidence and reveal their necessary conceptual and sociohistorical mediations" (ibid: 322). This approach reveals that it is "only in relation to other (hybrids) can a (hybrid) begin to approximate particular phenomena and their implicit social history. Constellations let (hybrids) interrelate in such a way that both the sociohistorical essence of phenomena and their unique identities can emerge" (Zuiderrart, 1991: 61). The constellational framework of this study presents the bottled water hybrid in a way that can "approximate particular phenomena and their implicit social history" (ibid: 61).

Adorno's (ibid: 61) constellations were developed in order to illuminate the sociohistorical essence of phenomena, but they were "also attempts to disclose what the phenomena could still become if the current direction of society were transformed, a disclosure exceeding the scope of current" hybrids. I suggest replacing the notion of object with hybrid within Adorno's work, so that a hybrid will also have similar characteristics as the object, such as:

> A sedimented social prehistory and a possible posthistory. Social history dwells both inside and outside a particular (hybrid). The (hybrid) has become what it is within a larger sociohistorical process and in relation to other (hybrids), but this process and these relationships are intrinsic to the (hybrid)'s own identity (ibid: 60-61).

3.5 Conclusion

The theoretical perspective advanced in this chapter and explored in the remaining chapters of this thesis argues that society and nature are co-constructed by the agency of human and non-human actants located within a network of social practices. This perspective emphasizes the need for the inclusion of both material and symbolic

elements within these practices. To achieve this, I utilize a theoretical framework of critical theory and revise certain aspects through the work of more recent theorists. Adorno's constellation remains a very useful model as it focuses on the "complex, nonlinear, and at least partly contingent interrelations" (Wehling, 2001: 162) that construct various socio-natural outcomes.

Tracing through these interrelations is a task found within the immanent critique proposed by Adorno, and is similar to the method he applies to the thought movement congealed in Heidegger's theoretical concepts, which Adorno (1990: 7) argues must be "reliquified, its validity traced, in repetition"[17]. Adorno aims to breakthrough reified appearances by detailing interior structures of cultural products produced within modern society. Adorno's method does not merely describe "the productions of the ruling mind", or help "to weave the veil" (Adorno, 1981: 20), because immanent criticism is situated within Adorno's dialectical approach to philosophy which moves beyond the inner structures of cultural products in its analysis of culture.

The dialectical approach adopted by Adorno incorporates both immanent and transcendent criticism. Adorno (ibid: 31) argues that critical theory cannot accept using only the transcendent critique of "calling culture as a whole into question from outside under the general notion of ideology", or only the immanent critique that confronts culture "with the norms which it itself has crystallized". The dialectical technique within critical theory instead encourages a perspective that moves its focus of analysis between a location within the object and one outside of the culture that the object is situated within.

Adorno's strategy shares similar techniques to those found within Bruno Latour's use of Actor Network Theory. Latour (1990:21) avoids using "both 'materialist' and 'mentalist' explanations at all costs" and instead he encourages "more parsimonious accounts". This perspective is critical of a materialist perspective that begins with the economic superstructure and then approaches its object to be studied, and it is also

[17] Latour is also interested in the idea of re-tracing. He believes that Pinch's (1985) demonstrates the accumulation of traces after meaning has been stabilized (Latour, 1990: 41). He also states that optical consistency of immutable mobiles incorporates re-tracing, as "this consistency entails the art of describing everything and the possibility of going from one type of visual trace to another. Thus, we are not surprised that letters, mirrors, lenses, painted words, perspectives, inventories, illustrated children's books, microscopes, and telescopes come together in this visual culture. (Latour, 1990: 31)

critical of approaches that place too much emphasis on inscriptions or representations. Rather than advocating a dialectical approach, Latour (ibid: 24) instead suggests that "we have to hold the two eyepieces together so that we can turn it into a real *bi*nocular". This is different from Adorno's advice (1981: 33) to dialectical critics of culture who "must both participate in culture and not participate. Only then does he do justice to his object and himself". It is useful to examine both Latour's and Adorno's theoretical frameworks to examine similarities and differences in the focus and results of each theorist's work.

Jarvis (1998: 6) has stated that immanent critique remains within what it criticizes, and that it starts with individual arguments and internal contradictions within a body of work "to understand what these contradictions tell us about the social experience out of which the work was written". Adorno's interest in the inner workings of cultural products seek to expose current problems in contemporary life, but does not seek to provide the guide for a utopian life. Instead, Adorno's immanent critique "hopes to interpret this damaged life with sufficient attention and imagination to allow intimations of a possible, undamaged life to show through (ibid: 9).

The method of immanent critique "takes seriously the principle that it is not ideology in itself which is untrue but rather its pretension to correspond to reality" (Adorno, 1981: 32). It critiques phenomena through "the analysis of their form and meaning" that then seeks to reveal "the contradiction between their objective idea and that pretension" (ibid: 32). This technique does not begin its analysis by throwing out the claims proposed by various ideologies, and instead allows ideological perspectives to "state their case". Once this has been done, an immanent critique would examine the various contradictions that take place between ideological statements and the various characteristics and structures of cultural products.

Latour's (1990: 47) approach does not seek out the analysis of form of a phenomena, and instead Latour's interest in formalism can be defined as a study of "the acceleration of displacement without transformation" and the "mobilization of many resources through space and time is essential for domination on a grand scale". Latour (1987: 227) defines the objects that allow this mobilization to take place "immutable and combinable mobiles". These objects "have the properties of being

mobile but also immutable, presentable, readable and combinable with one another (1990: 26). An application of Latour's concept is done later in Chapter 8, where the NSAI bottled water standard is examined as an immutable mobile.

Latour has defined immutable mobiles as possessing three central characteristics: optical consistency, a new visual culture, and a new way of accumulating time and space. Optical consistency provides "a regular avenue through space" (ibid: 27), which is necessary for mobilizations to occur over large distances[18]. Immutable mobiles also make use of new aspects of visual culture, which demonstrates "how a culture *sees* the world, and makes it visible. A new visual culture redefines both what it is to see, and what there is to see" (ibid: 30). Lastly, immutable mobiles possess a new way of accumulating time and space as "they increase either the mobility or the immutability of traces" (ibid: 31). Immutable mobiles are able to collect other locations without any disruption in accuracy, and can be replicated many times without any decrease in quality. Latour states that:

> All these objects occupy the beginning and the end of a similar accumulation cycle; no matter whether they are far or near, infinitely big or small, infinitely old or young, they all end up at such scale that a few men or woman can dominate them by sight; at one point or another, they all take shape of a flat surface of paper that can be archived, pinned on a wall and combined with others; they all help to reverse the balance of forces between those who master and those who are mastered. (Latour, 1987: 227)

Similar to Adorno's strategy within dialectical criticism, Latour (1990: 24) adopts a two-part strategy in his examination of immutable mobiles, which he argues "should concentrate on those aspects that help in the mustering, the presentation, the increase, the effective alignment, or ensuring the fidelity of new allies". This approach would examine both situations and inscriptions that aid the alignment of allies in networks of mobilization. For example, it would not first appeal to the proposed explanatory potential of phrases like "economic infrastructure" or "universal traits of nature" (ibid: 19). Instead, Latour (ibid: 23) states that "we must consider in which situations

[18] Latour (1990: 37) uses the panoptican studied by Foucault (1979) as an example of optical consistency that was necessary for power on a large scale.

we might expect changes in the writing and imaging procedures to make any difference at all in the way we argue, prove, and believe". This specific focus is also evident in Latour's analysis of inscriptions:

> We do not find all explanations in terms of inscription equally convincing, but only those that help us to understand how the mobilization and mustering of new resources is achieved. We do not find all explanations in terms of social groups, interests or economic trends, equally convincing but only those that offer a specific mechanism to sum up "groups," "interests," "money," and "trends": mechanisms which we believe, depend on the manipulation of paper, print, images, and so on (Latour, 1990: 26).

Latour's (ibid: 40) understanding of inscriptions does not attribute all agency to inscriptions, but inscriptions are "the final edge and the final stage of a whole process of mobilization".[19] Large scale mobilizations will incorporate a cascade of inscriptions that make the mobilization possible. Latour sees large scale mobilizations as having similar characteristics, as they are constructed and act in similar ways, and because all of these motivations demonstrate the ability and desire to dominate on a large scale.

The drive towards domination is not sufficiently explored by Latour, and his approach requires and additional method of analysis. In his consideration of the political implications of Actor Network Theory, Latour (2005: 260) asks the question, "What are the assemblies of assemblages"? To answer this question, Latour believes that social researchers must look outside of the assemblages traced within Actor Network Theory. Latour states:

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[19] Latour states that inscriptions are mobile, they are *immutable* when they move, or at least everything is done to obtain this result, They are made *flat*. The *scale* of the inscriptions may be *modified* at will, without any change in their internal proportions. They can be *reproduced* and spread at little cost. Since these inscriptions are mobile, flat, reproducible, still and of varying scales, they can be reshuffled and *recombined*. One aspect of these recombinations is that it is possible to superimpose several images of totally different origins and scales. Inscription can, after only little cleaning up, be *made part of a written text*. Lastly, the two-dimensional character of inscriptions allow them to *merge with geometry* (Latour, 1990: 44-47).

> "They [associations] should also be *composed* in order to *design one* common world ... This time, however, it has to be done not inside the panoramas I have presented, but outside and for good. So it's perfectly true to say that no sociology can be content with 'just describing' associations, and nor can it simply enjoy the spectacle of sheer multiplicity of new connections. (Latour, 2005: 259)

The limitation of tracing the movements of immutable mobiles is similar to what Adorno (1981: 31) acknowledged by stating that tracing the internal contradictions of an object is not enough, as "internal criticism is structurally limited and conditioned by ideology". It is for this reason that dialectical criticism must make use of transcendental critique. For Adorno (ibid: 29), "the spontaneous movement of the object can be followed only by someone who is not entirely engulfed by it". Similar to the requirement of Actor Network Theory, the critical researcher must move outside of the object of study to develop a dialectical perspective. Immanent critique, by itself, ignores the decisive role of ideology in social conflicts. Adorno argues that transcendent critique must be incorporated, as it attempts a proposed view of culture from outside of social relations, even if this participates in the temporary reification of culture. Dialectical analysis must therefore:

> Relate the knowledge of society as a totality and of the mind's involvement in it to the claim inherent in the specific content of the object that it be apprehended as such. Dialectics cannot, therefore, permit any insistence on logical neatness to encroach on its right to go from one *genus* to another, to shed light on an object in itself hermetic by casting a glance at society, to present society with the bill which the object does not redeem. Finally, the very opposition between knowledge which penetrates from without and that which bores from within becomes suspect to the dialectical method, which sees in it a symptom of precisely that reification which the dialectic is obliged to accuse. The abstract categorizing and, as it were, administrative thinking of the former corresponds to the latter to the fetishism of an object blind to its genesis, which has become the prerogative of the expert. (Adorno, 1981: 33)

Adorno (1990: 166) believed that "when a category changes, as those of identity and totality do in negative dialectics, a change occurs in the constellation of all categories, and thus again in each one". The focus of the constellation developed in this thesis will not exclusively focus on a cultural body of work. It examines the regulatory, marketing and industrial activities that produce bottled water. Rather than arguing that nature and society are constructed in independent ways, this thesis argues that nature and society are co-constructed. It understands that Irish bottled water is located within "a series of interconnected heterogeneous (human and nonhuman) and dynamic, but contested and contestable, process of continuous quantitative and qualitative transformations that re-arranges humans and nonhumans in new, and often unexpected, ways" (Swyngedouw, 2006: 106). The next chapter will explain the research methods that were employed to suit the theoretical framework of this dissertation.

Chapter Four: Methodology

4.1 Introduction

This chapter describes and explains the development of a methodological strategy for conducting, gathering and interpreting my research. Following Harvey's (1990: 1) definition, the methodology of this research project "is viewed as the interface between methodic practice, substantive theory, and epistemological underpinnings". The methodology was therefore not produced in a forum that was independent of my theoretical framework. Considerations of both theory and research method were made concurrently and each informed and improved the other:

> Theory and practice do not slot into each other neatly, that they are not simply one and the same thing, but that — if you will forgive the hackneyed image — a kind of tension obtains between the two. Theory that bears no relation to any conceivable practice either degenerates into an empty, complacent and irrelevant game, or, what is even worse, it becomes a mere component of culture, in other words, a piece of dead scholarship, a matter of complete indifference to us as living minds and active, living human beings (Adorno, 2000b: 4).

The development of a critical theoretical perspective at the initial stages of research influenced the manner in which the research was carried out. Adorno (2000a, p.171) cautioned against the stigma of not immediately taking action[1] and observed that "distance from praxis is disreputable in the eyes of everyone. Anyone who does not take immediate action and who is not willing to get his hands dirty is the subject of suspicion". This can be applied not only to political practice, but also to research projects. Research methods that do not incorporate theoretical reflection can risk

[1] Adorno (2000b: 4) states that "It is no accident that the celebrated unity of theory and practice implied by Marxian theory and then developed above all by Lenin should have finally degenerated in [Stalinist] dialectical materialism to a kind of blind dogma whose sole function is to eliminate theoretical thinking altogether. This provides an object lesson in the transformation of practicism into irrationalism, and hence, too, for the transformation of this practicism into a repressive and oppressive practice. That alone might well be a sufficient reason to give us pause and not to be in such haste to rely on the famous unity of theory and practice in the belief that it is guaranteed and that it holds good for every time and place".

producing results that do not provide any significant insights or questions into existing social conditions:

> Practice that simply frees itself from the shackles of theory and rejects thought as such on the grounds of its own supposed superiority will sink to the level of activity for its own sake. Such a practice remains stuck fast within the given reality. It leads to the production of people who like organizing things and who imagine that once you have organized something, once you have arranged for some rally or other, you have achieved something of importance, without pondering for a moment whether such activities have any chance at all of effectively impinging on reality (Adorno, 2000b: 2004).

The research methods utilized in this project were influenced from two theoretical traditions: critical theory and actor network theory. The next section will discuss the role critical theory played during the development of the methodology and the focus of the research. This is followed by an explanation of the researcher's perspective and interest in the subject of this study. The chapter then concludes with a discussion of data collection techniques, followed by the use of actor network theory during the interpretation of the findings generated by the research.

4.2 Critical Theory

The methodology of this research project drew heavily from previous works in critical theory and also benefited from the work of theorists located outside of, and opposed to, critical theory. Critical theory does not dictate one specific method or theoretical approach while conducting field research, but there are general principles that can be identified within critical research. According to Horkheimer (2001: 217), critical theory "does not labour in the service of an existing reality but only gives voice to the mystery of that reality" and "it has no custom on its side, even when it promises success". This section will discuss how these principles were incorporated into this research project.

In their definition of a "criticalist", Kincheloe and Steinberg highlight several key

characteristics found in the relationship between a critical theorist and critical research by stating that:

> All thought is fundamentally mediated by power relations that are social and historically constituted; that facts can never be isolated from the domain of values or removed from some form of ideological inscription; that the relationship between concept and object and between signifier and signified is never stable or fixed and is often mediated by the social relations of capitalist production and consumption; that language is central to the formation of subjectivity (conscious and unconscious awareness); that certain groups in any society and particular societies are privileged over others and, although the reasons for this privileging may vary widely, the oppression that characterizes contemporary societies is most forcefully reproduced when subordinates accept their social status as natural, necessary, or inevitable; that oppression has many faces and that focusing on only one at the expense of others (e.g., class oppression versus racism) often elides the interconnections among them; and, finally, that mainstream research practices are generally, although most often unwittingly, implicated in the reproduction of systems of class, race, and gender oppression (Kincheloe and Steinberg, 1997, quoted in Kincheloe and McLaren, 2003 :304).

These "assumptions" offer a useful summary of critical research. This summary locates the researcher within a series of social and historical conditions that can never be fixed or static. This situates a critical researcher within the conditions being researched, thus negating any claims to being "detached" or "neutral". Along with social and historical conditions, a researcher is unable to totally separate thought from emotion. Adorno (2000a: 122) argued that the belief that thinking can benefit from a separation from emotion "is itself an expression of the process of stupefaction". A critical methodology therefore acknowledges the values, biases and perspectives a researcher brings into the research process and the perspective of this researcher will therefore be discussed further in the next section of this chapter. Said Adorno (ibid: 80), "knowledge comes to us through a network of prejudices, opinions, innervations, self-corrections, presuppositions, and exaggerations, in short through the dense,

firmly-founded but by no means uniformly transparent medium of experience".

Critical theory defines theorising as a form of praxis and where research in general is understood as playing a part in the negotiation of social and historical outcomes. A general aim of critical research is to highlight and investigate forms of oppression, inequality and reified thought, and "to expose the contradictions of the world of appearances accepted by the dominant culture as natural and inviolable" (Kincheloe and McLaren, 2003: 306). This impulse was a significant motivation for this research, as the rapid development of the Irish bottled water industry has made bottled water a popular feature in contemporary Irish society. The goal of questioning elements of the status quo is another central element of critical theory, as "the value of thought is measured by its distance from the continuity of the familiar" (Adorno, 2000a: 80).

The main objective of this research project was to investigate how various networks utilised both physical and discursive practices, social structures and social relationships during the creation of bottled water. Adorno's (ibid: 50) objection to Hegel, in stating that "the whole is the false", encourages a critique that strives to deconstruct existing social conditions. I was interested in the "becoming" of bottled water and was therefore interested in the web of practices, or "developing variations", that are involved in the bottled water industry.

This was followed by the interpretation of how water and other nonhuman entities behaved as a social agent, or actant, in a web of interrelated networks. The view taken throughout the research was that these networks or outcomes are never fixed and instead rely upon a series of contingent relations. These relations are "simultaneously economic, political, and cultural" and can be "seen as constituting contingent outcomes of many contradictory relations interacting in the capitalist mode, rather than as direct products of either capitalist intentions or structural machination" (Brown and Morrow, 1994: 278).

The dynamic nature of the objects of social inquiry requires a theoretical and methodological approach that is not ahistorical or universalistic. The methodology

was therefore developed by considering a series of theoretical concepts as well as by reflecting upon examples from previous research. My approach benefited from several techniques that produced a fertile base of perspectives and empirical information. This information was then interpreted through a theoretical framework that utilized approaches from several different theorists. Both the methodology and theoretical framework for this project was enriched through theoretical concepts that were developed across several traditions and eras of social theory and research. Horkheimer (2001: 240) identified the addition of certain elements and the adaptation of critical theory to new situations as integral characteristics of critical theory. The Jordanian historian, al-Jabiri, further explains this strategy:

> I do not limit myself to the constraints present in the original frameworks, but often utilize them with considerable freedom ... We should not consider these concepts molds cast in iron, but tools to be used in each instance in the most productive way (al-Jabiri quoted in Buck-Morss, 2003: 99).

The preliminary examination of industrial, regulatory, and marketing networks took place while the foundations of my theoretical and methodological frameworks were being designed. From these early stages of the research process, I continually developed a research strategy that was informed by previous theoretical and empirical work, and by the research process itself.

Research into the industrial field focused upon the material practices involved in the physical production of bottled water. The research revealed "regulated practices" (Foucault, 1972) of the industrial activities at each plant. I chose to conduct in-depth interviews with individuals that were associated with this field in order to interpret individual perceptions and to better understand micro and macro-level routines. I also examined policies, such as Cleaning in Place (CIP) and Hazard Analysis and Critical Control Points (HACCP), to study how industrial activities are codified by industry standards. National and international legislation and law were studied in an attempt to provide an analysis of regulation and to study the rationale behind the organisation of the industry.

I was also interested in examining the "black box" (Latour, 1993) of bottled water regulation in order to study the internal complexity of its activities. To do this, I identified individuals that were involved in the creation and application of bottled water regulation and interviewed them to learn more about each process. I also studied several official documents, policies and legislation and examined how they could be viewed as "inscriptions". The data was therefore constructed by including both inscriptions and actors within the network of bottled water regulation.

My field research of marketing practices also relied on the inclusion of texts and interviews with key individuals related to the area. I decided to focus on brand managers and individuals within advertising agencies and I also examined the regulation of advertising to investigate how marketing discourse is governed. The analysis of marketing discourses and practices, what Cronin (2004: 352) defines as "regimes of mediation", were shown to "interlink, overlap, and conflict with one another in complex ways". One aim of this study was to examine how these "regimes of mediation" construct images and meanings that are part of the bottled water industry's commodification of Irish water. I incorporated several bottled water slogans and campaigns in order to investigate the images and identities produced by the communicative strategies of marketers. This strategy provided key information that was interpreted through the use of "cultural frames", particularly through the use of the *mise-en-scène* cultural frame (Leiss et al, 2005).

Following the examination of networks involved in the creation of bottled water, water itself was studied as an actant. Leaving aside a methodological view that studies only opinions, perspectives and motivations of human actors within a field, I also sought to interpret the agency of water as what Latour (1993) has described as a "hybrid". I studied bottled water as an "artefact" to trace its ability to mobilize and influence other actors. This included the use of bottled water as a "prop" within consumer society, and the use of the bottled water standard as an immutable mobile. The work of actor nework theorists influenced me to use the concept of translation, which encouraged an open-ended path of research:

> Instead of imposing a pre-established grid of analysis upon these [categories,

> entities, relationships], the observer follows the actors in order to identify the manner in which these define and associate the different elements by which they build and explain their world, whether it is social or natural" (Callon, 1986: 200).

Within this framework, one noticeable absence is in the area of consumption. I did not include research into consumer patterns, consumer demographics, or consumer opinions. This does not imply that the study of these areas should be avoided. Instead, I elected to focus my attention on the arena of production, specifically in relation to physical, symbolic and cognitive constructions. Furthermore, it is not implied that there can be a "completeness" of representation or definition of the bottled water industry in this research project. There are many other activities, ideas, contexts and structures that could be incorporated into an examination of the Irish bottled water industry.

The incorporation of recent theoretical insights into the research model developed within this perspective shows that critical theory does not strive to be "'deeply rooted' like totalitarian propaganda" (Horkheimer, 2001: 223). Critical theory also does not claim to be "'detached' like the liberalist intelligentsia" perspective (ibid: 224). The research perspective sought to be reflective by acknowledging that the researcher is not an isolated individual, but is instead situated in "real relation to other individuals and groups", in "conflict with a particular class" and located "in the resultant web of relationships with the social totality and with nature" (ibid: 210-211). The following section will describe how the researcher acknowledged many of the factors that influenced the perspective adopted throughout the research process.

4.3 Research Perspective

The development of theory and research methods occurred in a nonlinear manner and was influenced by the research topic as well as by the researcher's experiences. Both the theoretical and methodological perspectives viewed the object of study as never being totally fixed or defined and also did not define the researcher as capable of becoming totally detached from the research process or from other socio-historical

conditions. This draws from Adorno's views on research, as explained by Held:

> In opposition to Hegel, Adorno argued that reality cannot be grasped from a single standpoint. The idea that there is a vantage point outside the sway of socio-cultural development – that is, the standpoint of that development's completion – from which one can assess history as a whole is illegitimate. The illusion that the mind has privileged access to such an Archimedean point and can, as a result, achieve self-sufficiency, forgets the 'effort of conceptualization'. It fails, moreover, to understand the nature of this effort. Thinking is a form of praxis, always historically conditioned; as physical labour transforms the material world under changing historical circumstances, so mental labour, under changing historical conditions, alters its object world through criticism (Held, 1980: 204).

My own "vantage point" is one that is socially and historically located and one that has been developed from previous research and experience. Research undertaken for my Master's Degree was encouraged by my interest in the social causes and consequences of brand representations. My Master's thesis examined the Guinness brand identity alongside its industrial practices and explored the product's use of an "Irish" identity in certain markets, while also investigating other marketing strategies employed by the company. The marketing communication was then compared to industrial practices and to contradictory circumstances surrounding the company's purported allegiance with Ireland (Dunne, 2003). My research then concluded by interpreting the importance of the image production of Guinness in comparison to the physical production of Guinness Stout.

My interest in the historical analysis and marketing messages of a mass produced product led me to the area of bottled water. My understanding of bottled water began to develop by watching bottled water advertisements and by making informal observations of the conspicuous consumption of bottled water in different parts of Dublin. I also learned more about the international development and regulation of the bottled water industry by reading international reports (Olson, 1999; Ferrier, 2001) and various political magazines (Barlow and Clarke, 2002b; Luoma, 2002; Matza,

2000).

As discussed in Chapter 1, the dramatic increase in the growth of bottled water took place as more attention was being paid to water on a national and international stage. The lack of access to clean water, in Ireland and around the world, has been highlighted in several recent reports from both national and international organisations (Gleick, 2002). Privatisation of water, along with other natural resources and public services, took place throughout the world as a result of political and economic ideologies. This privatisation took place in countries that lead the World Trade Organisation (WTO), as well as in countries like Bolivia that received loans from those countries that led the WTO. Private ownership of a water supply and other issues relating to the ownership, distribution and consumption of water are also pertinent themes to explore within the bottled water industry.

While Stine and Tarr (1998: 625)[2] argue that the history of water resources development is "one of the oldest areas in which technological and environmental history have overlapped", the overall academic body of work in the sociology of bottled water is limited. Swyngedouw (2004) examined the power struggles and commodification of water in urban water supplies and Opel (1999) and Wilk (2006) have recently published work that examined the commodification of water within the bottled water industry, but there has been no significant work that has explored the regulatory and industrial practices associated with bottled water. Furthermore, after a search of academic literature, I believe this is the first work to look at marketing, regulatory and industrial sectors of the bottled water industry in the same study.

The bottled water industry is embedded within a number of other sectors of Irish, European and global contexts. Bottled water is a relatively new industry in Ireland and its exponential growth coincided with recent economic developments nicknamed the "Celtic Tiger". Along with this unprecedented economic growth, Ireland has seen

[2] Stine and Tarr (1998: 625) state that "the construction of dams, the destruction of rivers, the large-scale transport of water, the mining of ancient groundwater reserves, the provision of navigation structures, the armoring of river banks and shorelines, the channelization of streams, the installation of vast irrigation systems and hydroelectric power facilities, the provision of fish ladders, the mounding of levees, the dredging of harbors and waterways, and the reclamation of wetlands are all elements of this history".

a dramatic increase in commercial advertising and marketing messages. Ireland's membership within the European Union has also been extremely influential in the bottled water industry, as the scientific regulation that governs the industry is an outgrowth of the harmonisation of regulatory policies throughout Europe.

After gaining a general understanding of geopolitical issues relating to water, my first avenue of inquiry for this research project was in the history of bottled water. This led me to conduct an historical examination of discourses involving water in Ireland. This preliminary study compared the material use of water with the social communication about water throughout different periods in Irish history. I examined the construction and use of Celtic holy wells, the religious messages and symbols about water in Celtic religions (Green, 1995) and the current use of holy wells in Ireland (Healy, 2001; Rackard, 2001).

I was also interested in Weber's (1946) idea of "disenchantment of nature" and wanted to study how the discourse of water changed through different religious and material uses of water. Catholicism used holy wells as part of the conversion process in Ireland, as wells retained certain pagan rituals but were renamed with the names of Catholic Saints (e.g. St. David's Well). Water was no longer something that was inherently divine in itself as it was in Celtic societies, but rather needed to go through a ritual performed by a member of the Catholic Church, as depicted Orpen's painting in Chapter 2.

Added to this development, a more instrumental use of water became widespread throughout Irish society. Canals were developed for transport and water was used for industrial production. Scientific knowledge replaced myth and water was an object to be possessed, controlled and manipulated. In contemporary Irish society, some might define this as being "re-enchanted". Irish bottled water not only incorporates industrial production and scientific knowledge, but it also engages in symbolic communication through marketing messages.

This historical overview was designed to investigate how bottled water was able to "become" in contemporary Irish society. It would trace "genealogies" of water usage

to determine what paths Irish society took to produce bottled water as a consequence of its relationship with the environment. This maintained a belief in how activities shape physical objects, but also the perceptions of physical objects:

> The objects we perceive in our surroundings – cities, villages, fields, and woods – bear the mark of having been worked on by man. It is not only in clothing and appearance, in outward form and emotional make-up that men are the product of history. Even the way they see and hear is inseparable from the social life-process as it has evolved over the millennia. The facts which our senses present to us are socially performed in two ways: through the historical character of the object perceived and through the historical character of the perceiving organ. Both are not simply natural; they are shaped by human activity, and yet the individual perceives himself as receptive and passive in the act of perception (Horkheiemer, 2001: 200).

After informative discussions with my supervisor and further consultation with recent research, I turned my focus to contemporary discourses and networks of practices. This strategy produced a greater understanding of discourses that were related to the Irish environment and provided a more meaningful perspective on the current debates in environmental sociology.

4.4 Constellation and Force-Field

After establishing a research focus on contemporary Irish society, I set about examining how the bottled water industry operates in both Ireland and on an international level. This early stage of the research process aimed to construct a constellation of practices that are associated with the production, distribution and consumption of bottled water.

As explained in the previous chapter, the design of a constellation does not claim to provide a totalising and universalistic explanation. Rather, I aimed to situate bottled water within a web of activities to identify the many elements that constitute its production and to highlight the many contingent practices behind its creation. My

research design therefore attempts to illustrate how bottled water has been developed through a network of social practices, messages and situated knowledges.

The approach in this research project borrows from the strategy found in Adorno's negative dialectics. Held (1980: 215) argued that Adorno's constellational approach reveals specific sides of objects that "are inaccessible to identity thinking and the dogmatic application of classificatory schema". The focus here, however, is not exclusively concerned with a "concept", or "classificatory schema". Instead, I chose to examine bottled water as a hybrid of the natural and the social, as a combination of both subject and object. This research project not only analyses discursive elements, but also examines the material practices that exist within a series of networks associated with bottled water. It also seeks to reveal the "actant" side of bottled water, which is a side that has been largely ignored by previous research works of critical theory.

The networks that I identified for this research project were the industrial, regulatory and marketing sectors associated with bottled water production. While there are areas of overlap between these sectors, I sought to examine material, cognitive and symbolic constructions (Eder, 1996) within the areas of industry, scientific regulation and marketing. Borrowing again from Adorno's theoretical project, I analysed these areas with reference to the concept of a force-field (*Kraftfeld*). Jay (1984a: 14) has defined a force-field as a "relational interplay of attractions and aversions that constitute the dynamic transmutational structure of a complex phenomenon". This strategy was very useful in my examination of interactions between industrial, regulatory and marketing practices. These interactions, at times, involve both contradictory and shared beliefs, methods and motives.

Within the industrial sector, my central source of information was the study of five bottled water companies located in Ireland. My goal was to examine the individual and organisational praxis that is involved in the material production of bottled water. To collect information in this area, I conducted interviews with individuals that worked in the area, participated in tours of plants and studied secondary documents such as industrial documents and standards, and national and European legislation.

These sources provided insight into the methods and viewpoints of actors within the industry from both individual and structural perspectives. Similar to Zonabend's (1993) work, *The Nuclear Peninsula*, I was interested in examining the everyday interactions and routines at the plant. This included the material practices involved in the production of bottled water and also the various strategies designed to coordinate the collaboration of many different entities within the production process.

The regulatory sector related to the bottled water industry provided information on the "in-house" regulation of bottled water companies along with the national and international agencies that were involved in the area. I first examined regulatory documents and legislation to analyse the codes of practice that govern the activities of individuals and companies within the industry. This was followed by discussions with individuals responsible for the creation, maintenance and implementation of regulatory policies.

Outside of company employees, I spoke with individuals with the National Standards Authority of Ireland, the Environmental Protection Agency, Food Safety Authority of Ireland and an Environmental Health Officer. My aim was to examine how regulatory knowledge was created, tested and applied throughout a network of individuals associated with regulation. Where Latour and Woolgar (1986) examined the construction of knowledge in scientific laboratories, I was interested in the inscription and translation of scientific knowledge in order to interpret how the regulatory order is constructed during the production of bottled water.

The marketing sector of the bottled water industry was examined in order to provide an insight into the symbolic construction of bottled water and an understanding of the creation of bottled water's exchange value. I spoke with brand managers in several companies, members of a major advertising agency that have been involved in advertising bottled water since it began in Ireland and members working with organisations that are associated with Irish advertising. Drawing from Leiss et al's (2005) "cultural frame" analysis of advertisements (2005), I was also interested in the strategies and methods of advertising campaigns and marketing messages. The development of brand identities involved many individuals and methods and I was

interested in how various elements worked alongside one another.

These different areas interrelate through a series of "attractions and aversions" throughout the production of bottled water (Jay, 1984a). These areas then "gather" together within the product, or "thing", that is bottled water. This process is described in Latour's explanation of a thing:

> A thing is, in one sense, an object out there and, in another sense, an *issue* very much *in* there, at any rate, a *gathering*. To use the term I introduced earlier now more precisely, the same word *thing* designates matters of fact and matters of concern (Latour, 2004: 24).

My examination of bottled water sought to interpret how the activities of industrial, regulatory and marketing networks work together to produce bottled water and how this bottled water comes to represent "matters of fact and matters of concern". The next section will explain how I set out to study these activities through a framework developed within the tradition of critical theory.

4.5 Data Collection Techniques

Critical theory, much like most other social theories, does not dictate a specific set of research methods or data collection techniques. Previous research in critical theory has included quantitative and qualitative methods, as well as a combination of both. The selection of the research methods used to produce the data is therefore open to negotiation and can depend upon a variety of factors. This research project incorporated in-depth interviews, document analysis and ethnographic observation. Harvey (1990: 207) describes data collection as a process that "is not a self-contained phase in a linear process", as "all aspects of the research process are interrelated and bear on each other". Furthermore, "there is no neat linear sequence of events as the idealized research report format would have us believe" (ibid: 208). Throughout the research process, I found myself using my data collection techniques as excuses to think through my theoretical framework and analytic methods. I would also revisit the design of my data collection techniques throughout the entire duration of the field

research. This encouraged me to improve upon my interview questions, seek out further secondary documents and ask more questions during my ethnographic observations. I will discuss each of these methods and the reasons for their use in the remainder of this section.

4.5.1 In-depth Interviews

One of the major sources of data for the research project was in-depth interviews. In-depth interviews were utilized as they can provide a wealth of information on a topic. They are able "to achieve both breadth of coverage across key issues, and depth of coverage within each" (Legard, Keegan and Ward, 2003: 148). Interviews supplied the research with information on specific policies, practices, and other general facts, as well as individual perceptions and opinions.

I was fortunate in gaining access to the majority of the companies I contacted in the Irish bottled water industry (See Figure 4.1), but there were several companies that ignored repeated requests for interviews. These companies were usually very small and this generally occurred at the beginning of the research process. From this sample of companies, I began to investigate the individuals and practices involved in industry, regulation and marketing.

Figure 4.1: List of Interviews

Michael Curtin	Ballygowan	Limerick
Mary Flynn	Ballygowan	Tipperary
Paula Murphy	Ballygowan	Limerick
Denis Scanlan	Ballygowan	Limerick
Paula Colhoun	Deep RiverRock	Antrim
Nicola Horgan	Deep RiverRock	Dublin
Gary Stewart	Deep RiverRock	Antrim
Peter Keane	Fíor Uisce	Mayo
Judith Butler	Kerry Spring	Dublin
Michael Lyne	Kerry Spring	Kerry
Theresa O'Brien	Kerry Spring	Kerry
Helen O'Riordan	Kerry Spring	Kerry
Linda Nelson	Tipperary Natural Mineral Water	Dublin
Orla Twomey	ASAI	Dublin
Terence Cosgrave	Checkout Ireland	Dublin
Darragh Page	Environmental Protection Agency	Dublin
Ray Ellard	Food Safety Authority of Ireland	Dublin

Bernard Dunne	Health Service Executive	Kerry
John Holohan	IAPI	Dublin
Greg Jones	McConnells Marketing	Dublin
Gerry Kennedy	McConnells Marketing	Dublin
Brian Cunningham	National Standards Authority of Ireland	Dublin
Donal McHugh	National Standards Authority of Ireland	Limerick
Manus O'Bralchain	National Standards Authority of Ireland	Dublin
Shane O'Neill	O'Neill Groundwater Engineering	Kildare
Alise Cappel	Environmental Law Foundation	Email
Michael Harrington	Tesco	Email
Richard Holland	World Wildlife Fund	Phone
Stephen Ryan	Health Service Executive	Phone

Establishing access to the industry was an easier process that I had first imagined and I was grateful for the successful results. The first point of contact within the bottled water industry came through a friend's relative who worked in the industry. From there I was able to establish interview sources within several parts of the same company. This first point of access was very beneficial to the research, as I was able to tell other companies that I had already been in conversation with one of the major bottled water companies in Ireland. It was clear that access to a major company assuaged the concerns of certain company representatives, as the tone of many telephone conversations changed after this fact was mentioned.

Many times one employee of a company or organisation would put me in touch with another employee and sometimes would mention other individuals working in the industry. In hindsight, I was pleasantly surprised with the amount of generosity and cooperation I received from most companies and organisations. However, I was not always successful in gaining access to individuals that were linked to the bottled water industry. Distributors did not cooperate with a request for a face-to-face interview and instead I relied upon an email exchange to gather information. One member of the NSAI refused to cooperate for an interview and, unfortunately, the Bottled Waters Association of Ireland refused to cooperate with the study.

The greatest difficulty I faced was persuading plant workers to speak with me. One major plant was in the middle of a labour dispute when I was first in contact. A manager asked me not to speak with plant workers and I had to follow these instructions at the time. After waiting over a year, I contacted two workers on

separate occasions. Both workers were very hesitant to say anything, despite my previous contact with their union office. One of these workers stressed the point that "we are very isolated here", which was something I kept in mind while doing my research.

I interviewed the majority of individuals in face-to-face meetings, with two interviews being conducted over the phone due to travel constraints. Most interviews lasted approximately sixty minutes and were digitally recorded. These interviews were then fully transcribed at a later date.

After some individuals refused to be interviewed, I instead asked a series of questions through email correspondence. These email interviews were unable to provide the quality of information that were provided in personal and phone interviews, but they were able to supply specific information that increased my understanding of the bottled water market in Ireland. This was with particular reference to the role of retailers in the distribution of bottled water.

Scheduling appointments was done through first contacting the interviewee through written communication (either letter or email). I provided a brief explanation of myself and my research, as well as explaining why they were selected for an interview and how the interview would be conducted. This was then followed by a phone call that attempted to further explain and clarify the research project. After an informal discussion, I would then try to schedule an interview time that best suited the schedule of the interviewee.

This was the procedure followed for the majority of interviews, but there were some exceptions. One company required me to discuss my research with the Corporate Affairs Department. After contacting an employee that I hoped to interview, I was advised to first talk to Corporate Affairs to get permission. I sent written correspondence to the Corporate Affairs office and this was followed by a phone discussion. I was then given clearance to interview within the company after this communication.

There were other times where I first contacted someone by telephone, particularly when I was unaware of the person's name in the relevant position. I would follow up these conversations with written correspondence that provided details of my research project. After a few days, I would then follow up the written correspondence with a phone call in order to schedule a time and date for the interview.

The venue of each interview was predominantly the interviewee's place of work, but some interviews were located outside of the work environment. One interview was held at the private residence of a person who had retired from their position. Due to the nature of some interviewees, one interview was held in a coffee shop, and another was held in a hotel lobby.

Several respondents reacted with curiosity over why a sociology student would be interested in bottled water, particularly in the regulation of bottled water. I generally found reactions to be very positive and generous, which was not the experience I prepared myself for at the beginning of the research.

Upon meeting with interviewees, I repeated the explanation of my research and of the interview procedure. Several times these initial discussions went beyond topics directly related to my research. Other topics included GAA athletics, my family background, the weather, my travel and Islamic terrorism. I treated most of these topics as informal ways the interviewee used to get to know a little more about me and sometimes a way to get to know some of my political views. These introductory moments were not recorded and I only started recording after saying I would do so.

I was aware that my replies to these questions could influence the discussion provided by interviewees. I avoided any detailed discussion of issues and instead focused on friendly conversation. If asked for a specific opinion on an issue, I would politely respond by trying to avoid giving any specific opinion. As a general rule, I kept a famous reply made by an Irish politician in the back of my mind:

> I don't have an opinion on the matter, and if I had an opinion, it would be that we should keep our opinions to ourselves.

My avoidance of political discussions was not intended to produce a research project that could claim a research perspective that was apolitical. This research was produced in agreement with the belief that there is "no theory of society...that does not contain political motivations" (Horkheimer, 2001: 222) and often during the research process I reflected on my own political values and motivations. I felt political discussions were best avoided as they might distract interviewees, or cause interviewees to adopt a negative or defensive engagement with the interview.

Other than answers to questions, I was aware that other factors could influence the interview discussions. Among other things, my New Jersey accent revealed that I was from the United States. This was largely seen as a positive feature and even helpful. It started off many interviews with an informal way of learning about me. Many interviewees took great interest in the fact that my parents were both born and raised in Ireland. Interviewees in Kerry were very interested in my mother's Kerry upbringing and Mayo interviewees were interested in my father's Mayo upbringing.

Changing behaviour due to the arrival of an American is something I grew up with. A running joke in both sides of my family was the "paint the house, the Americans are coming" routine. I did make a conscious effort to minimize this effect, but I still acknowledge that it did influence conversation. One interaction made this very clear to me:

> SD: So, what do you think of when they use the words "pure water", like they use it in, you see it a lot on labels, it says "this is pure Irish water", "this is pure still water", "this is pure water"...
>
> BD: Well, I suppose really, that's a labeling sort of issue. I mean you mentioned yourself "pure *Irish* water", you're actually gearing it toward the **Yanks**, ah, Americans, you know, that sort of market.

This correction was made after the first comment was provided and it wasn't a very significant difference in information. However, it did remind me that other

comments, ideas and opinions could have been filtered prior to being stated. Finlay's (1999) experience in Northern Ireland highlights these issues of "telling" within interview interactions, as he realised the perception his interviewees had of him as a Protestant researcher only after conducting a number of interviews.

The acknowledgement of my influence on the interview was understood within my general approach to the interview process. The production of information through interview research takes place in a setting that is embedded in a host of many other social and historical conditions. Interviewing is "inextricably and unavoidably historically, politically, and contextually bound" and this "refutes the whole tradition of the interview of gathering objective data to be used neutrally for scientific purposes" (Fontana and Frey, 2003: 695). There were many factors influencing each interview and I tried to keep this in mind while designing and conducting the interview.

Interviews were also viewed as encounters in which both parties "are necessarily and ineluctably active" and that the meanings produced within the interview are "actively and communicatively assembled" (Holstein, 2003: 113). The information produced through the interview was not only influenced by a range of different social contexts, but it was also the product of the encounter between both the interviewer and the interviewee. Interviews were therefore designed to encourage interactions that would allow interviewees the time and space to articulate their opinions and feelings. Unlike the disagreement noted in Terkel (1985), it was sometimes necessary to rely upon "conventionally conducted" interviews:

> I realized quite early in this adventure that interviews, conventionally conducted, were meaningless. Conditioned clichés were certain to come. The question-and-answer technique may be of some value in determining favored detergents, toothpaste, and deodorants, but not in the discovery of men and women" (Terkel, 1985: 10).

At times I needed people to discuss very straightforward pieces of information, as this allowed them to contextualise their work environment and made them feel more

comfortable talking about what they thought of their work environment. Direct interview questions were useful to provide insight into some areas, (particularly regulation), and were also beneficial in their ability to make respondents more comfortable during the interview.

4.5.2 Secondary Documents

The research relied heavily upon the analysis of secondary documents. The collection of documents began near the end of 2001 and continued throughout the duration of the research project. The documents were supplied using several different sources of information, including political, regulatory and industry publications.

Legislation was easily compiled as there are many references to past legislation when new legislation is passed. Most government legislation is also available online, which allowed me to access Irish and European Legislation from my computer. European Directives played a critical part in my understanding of bottled water regulation as these documents contained many valuable legal definitions and explanations.

Documents within the regulation sector were probably the most fertile source of information. I was fortunate enough to be provided with a free copy of *I.S. 432*, which is the National Standard Authority of Ireland's (NSAI) published standard for the Irish bottled water industry. I was also very fortunate to receive documents that are inaccessible to the general public from several interviewees. Documents included NSAI Magazines and guidelines, Regulatory Directives, Environmental Protection Agency reports, Department of Health documents, ENFO reports and Food Safety Authority of Ireland guidelines. Certain documents, such as the *I.S. 432*, were essential in understanding the organisation of workplace environments and the guidelines for workplace regulatory audits. This document was discussed in several interviews and many interviewees referred to it as "the bible". It was essential to have a clear understanding of the *I.S. 432* to engage in conversation with several interviewees.

Industry documents, including trade magazines such as *Check Out* and *Hospitality*

Ireland, official company documents, World Wildlife Fund reports, *Inside the Bottle*, and International Bottled Waters Association newsletters, also proved very helpful to the research. Trade magazines were useful in providing background information on the industry, as well as the regulatory agency associated with the industry. Unfortunately, I was unable to access many contemporary reports on the industry from market research. There were several attempts to obtain these reports. I was unable to afford the very expensive financial cost demanded by market researchers like Taylor Nelson Sofres or AC Nieslon, but I was fortunate to obtain Mintel's publication on the Irish bottled water market.

The information provided by source documents provided me with a wide range of information on the bottled water industry. I was able to develop a general understanding of the bottled water industry, on subjects ranging from its growth to recent environmental criticisms of the industry. I was also able to see the development of regulation legislation ranging from European standards to Irish national legislation and then the development of each into a harmonised legislation. This was information that would be difficult to obtain using interview research.

4.5.3 Ethnographic Observation

Ethnographic observation constituted a minor role in my empirical research. I took several tours of bottled water plants and these tours took place after I had finished conducting interviews. I participated in tours of the largest bottled water plants as well as a tour of a small plant that had only recently been installed. These tours permitted me to see production facilities, workers involved in manufacturing processes, machinery and technology and regulatory designs. My tour guides included a company owner, plant manager and operations manager. I tried to record as much information as possible while taking the tour, but I also took down further notes after the tour was over. The information gathered in these tours was used to develop an understanding of how the plant's activities were organised to establish a regulatory order that sought to restrict the agency of workers and water and other nonhuman entities.

4.6 Interpretation and Analysis of Data

This research project avoided the use of software programs such as SPSS and Nudist. SPSS is traditionally more useful for quantitative data. The Nudist framework is most likely beneficial for some research projects, however I felt by transcribing and coding the data using my own method I would be best able to interpret the interview data. All interviews were therefore transcribed and then coded using my own categorical set of organisational methods.

Actor network theory's suggestion to "follow the actor" was adopted throughout the research. Thrift (1996: 221) defines actor networks[3] as "associations of actors *and* resources (intermediaries like texts, human and non-human beings and money) which are put into circulation in a continual effort to construct and maintain power relations". The circulation (Swyngedouw, 2006) and influence of these entities was followed to trace how bottled water was produced. Interviews, documentary analysis and ethnographic observation were all used to generate data on a variety of entities such as human actors, marketing messages and industry standards to examine the various interconnections behind the production of bottled water.

An influential factor in the development of actor network theory is the attention paid to nonhuman entities. Clarke (2005: 61) credits the influence of "Foucault's displacement of the knowing subject as the sole/main focus of analysis" in his *The Order of Things* and states that one method of analysis within actor network theory is to:

> Follow a nonhuman object on its travels through its network(s), or follow the semiotic network itself as the central focus as it links both human actors and

[3] Latour (quoted in Crawford: 262-263) believes that the term network "might not be a very good word. Callon invented this notion of actor network in order to get out of the social part of the realist/constructivist argument. Network is also a way of getting rid of system and structure. But in order to avoid the technological version of the network, he added "actor," so then it is seen as an entity with a personality but not necessarily anthropomorphic--rather, an energy or a force. So actor-network and quasi object are exactly the same word. Just one of the many words we have to invent and use and drop after a while in order to trace and define a social relation that is not social and a natural relation that is not naturalized. What would be a good word to define, for example, Pasteur's microbes, which are not social relations but which do trace a collective?"

> nonhuman actors/actants (heterogeneous elements such as scientific facts, rules, consumers, resources, technical workers, microbes, factories) (Clarke, 2005: 61).

This research followed how three central networks related to one another through both attractions and aversions to produce Irish bottled water; an object which then works to influence the maintenance of other networks. Bottled water, as an object, was not viewed in isolation to the networks that are associated with its production. This is considered one of the principles of dialectical thought in its opposition to the processes of reification:

> Dialectical thought opposes reification in the further sense that it refuses to affirm individual things in their isolation and separateness: it designates isolation as precisely a product of the universal. Thus it acts as a corrective both to manic fixity and to the unresisting and empty drift of the paranoid mind, which pays for its absolute judgements by loss of the experience of the matter judged (Adorno, 2000a: 71).

As explained in the previous chapter, the dialectical focus of this work examines what is included and what is excluded throughout the networks that produce bottled water. The use of both a constellational framework, as well as concepts within actor network theory, highlights the "constructive" aspects of social reality. Adorno argues that the concern of dialectics is to attack "the sound views held by later powers-that-be on the immutability of the course of the world, and to decipher in their 'proportions' the faithful and reduced mirror-image of inordinately enlarged disproportions" (ibid: 72). This emphasis on the contingent nature of social reality is shared by actor network theory and it "recognizes the importance of the work of maintenance of networks: constant, unrelenting work that has to be invested simply to keep networks together" (Thrift, 1996: 221). Adorno illuminates the object's relation to other entities, rather than attempting to construct a universal or authentic definition of an object's essence. In doing so, he aimed to demonstrate what has been left out and marginalised in the creation of the social world. Actor network theory also highlights the interconnectivity of an object with other social relations and actors, but one of its

central concerns is demonstrating what is included and involved in the construction of social reality through a process known as "translation", which Callon describes as:

> the mechanism by which the social and natural worlds progressively take form. The result is a situation in which certain entities control others. Understanding what sociologists generally call power relationships means describing the way in which actors are defined, associated and simultaneously obliged to remain faithful to their alliances. The repertoire of translation is not only designed to give a symmetrical and tolerant description of a complex process which constantly mixes together a variety of social and natural entities. It also permits an explanation of how a few obtain the right to express and to represent the many silent actors of the social and natural worlds they have mobilized (Callon, 1986: 215).

4.7 Company Profiles

4.7.1 Introduction

This section will provide profiles of the companies that were researched throughout the dissertation. Ballygowan, the market leader and first modern bottled water company to develop in Ireland, plays a significant role throughout the discussions of marketing, regulation and industry practices. Ballygowan has dominated the advertising of Irish bottled water and, as explained later, set the stage for Irish bottled water companies to compete in a domestic market that had been dominated by imported brands up until the mid-1980's (BWAI, 1996: 2). Ballygowan was also the first company to request an industry standard for regulation and its production facility is considered the most advanced in Ireland (Flood, 2001). It has continued to dominate the Irish bottled water market and its name has nearly become ubiquitous with bottled water in Ireland (Godson, 2001).

According to Checkout Magazine, Ballygowan was the sixteenth strongest brand in the Irish Grocery and Retail sector in 2006, which was particularly high, compared to other bottled water competitors. Deep RiverRock ranked thirty-ninth and Kerry

Spring ranked eighty-fourth, while Fior Uisce and Tipperary Natural Mineral Water did not place in the top 100 brands.[4] Ballygowan has a more influential historical, industrial and marketing presence than other bottled water companies, but the examination of each of the companies that follows contributed in various ways to the understanding of the Irish bottled water industry.

Four companies were selected due to their common trait of implementing the guidelines of the IS 432 Standard and also for being the four largest Irish companies in the Irish market. A fifth company was selected as it had just recently been created and I was interested in observing how bottled water companies establish themselves in relation to manufacturing, regulatory and marketing goals. Not all companies continue to be certified by the NSAI standard, but it was evident throughout the research that the NSAI standard is extremely influential throughout all of the bottled water companies in this study.

4.7.2 Ballygowan

Ballygown's water is sourced in Newcastle West, Limerick, which is a town located in the southwest of Ireland. The water is taken from a limestone aquifer.

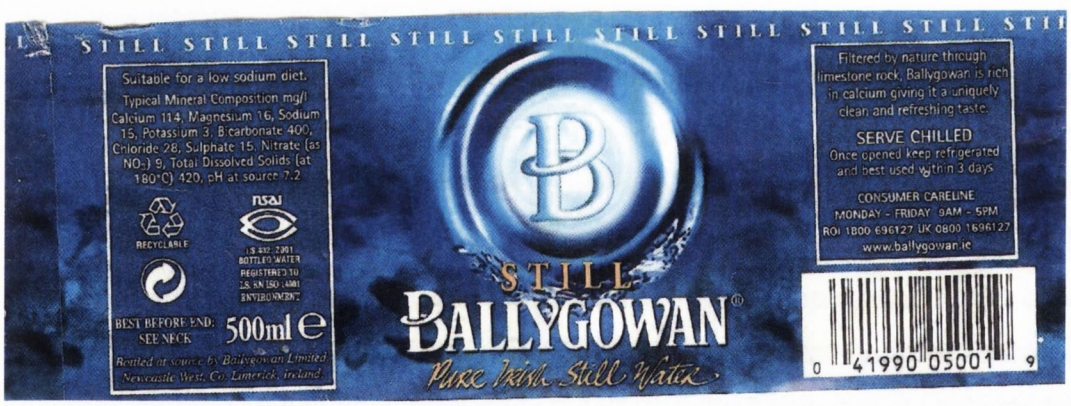

Figure 4.2: Ballygowan product label

Ballygowan was founded by Geoff Read in 1981, who was first involved in a deal with Richard Nash, owner of Nash's Mineral Waters[5]. The company entered into a

[4] http://www.checkout.ie/Top100_2006.asp

[5] "The original source is considered to be 800 years old. It was discovered by the Knights Templar, upon their return from the Crusades and became known as St. David's Holy Well with reputed therapeutic qualities. It has been used since the 1940s as a source of both mineral waters and soft drinks. The well was rediscovered as a soruce of natural imineral water in the early 1980s. St. David's

partnership with Anheuser-Busch in order to expand its distribution to the North American market, but Read then bought back the shares from Anheuser-Busch.

The large drinks and snack distributor Cantrell and Cochrane than bought Ballygowan. Cantrell & Cochrane were one of the largest drinks distributors in Ireland and had a €816.6 million turnover in 2005, €238.7 million (32%) of which was soft drinks. In 2004, Cantrell & Cochrane had 29% of Irish drinks market, and four out of the top five brands by volume. Ballygowan had 42% of total value sales; a 12 percentage point increase from 2004's market share estimate of 30% (Mintel, 2006: 24). In 2006, Cantrell and Cochrane sold Ballygowan to the current owner, the British drinks distributor, Britvec[6].

4.7.3 Kerry Spring

Kerry Spring's water is sourced in Ballyferriter, County Kerry, which is located in the southwest of Ireland. The aquifer of Kerry Spring is comprised of red sandstone.

Figure 4.3: Kerry Spring product label

Kerry Group owns Kerry Spring, and Kerry Group is a large food processing and drinks distributor headquartered in Ireland. The company employs over 20,000 people throughout the world and supplies over ten-thousand food, food ingredients and flavour products to customers in more than one hundred and forty countries. It is listed on the Dublin and London stock markets, after being launched as a public

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Well was used initially but as the volume of production increased, it was considered more efficient to abstract the water from strategically located boreholes upgradient of the source. The Ballygowan Company has continued to grow throughout the 1980s and 1990s" (LaMoreaux and Tanner, 2001: 284).

[6] Following the sales of Tayto Crisps and Ballygowan, Cantrell and Cochrane have concentrated more on the development of their cider product, which is called Bulmers in Ireland, and Magners outside of Ireland.

company in 1986[7].

4.7.4 Tipperary Natural Mineral Water

The water of Tipperary Natural Mineral Water is sourced in Borrisoleigh, Tipperary, which is located in the southeast of Ireland. The aquifer is made up of Devonian Sandstone.

Figure 4.4: Tipperary Natural Mineral Water product label

The company was founded by Patrick and Nicholas Cooney and is currently owned by the Gleeson Group, a major drinks manufacturer in Ireland. The Group recently invested €6 million to expand the production facilities for Tipperary Natural Mineral water and other products in their portfolio. Pat Cooney, Managing Director of the Gleeson Group, explains the recent development:

> The expansion will include a complete new high-speed, modern bottle water production line, incorporating the very latest technology in this area, and a new bottling line for soft drinks, incorporating the latest in line-blowing technology (Cooney quoted in O'Regan, 2005).

Gleeson Group is one of the largest family-owned businesses in Ireland and is the second largest wholesaler for the licensed trade in Ireland. It employs over 500 people and had a recent turnover of €160 million (O'Regan, 2005).

4.7.5 Deep RiverRock

[7] www.kerrygroup.com

Deep RiverRock is sourced in Tullynacross, County Antrim, which is located in Northern Ireland. While it is located on the island of Ireland, it is the only bottled water company chosen in this study that is not sourced in the Republic of Ireland.

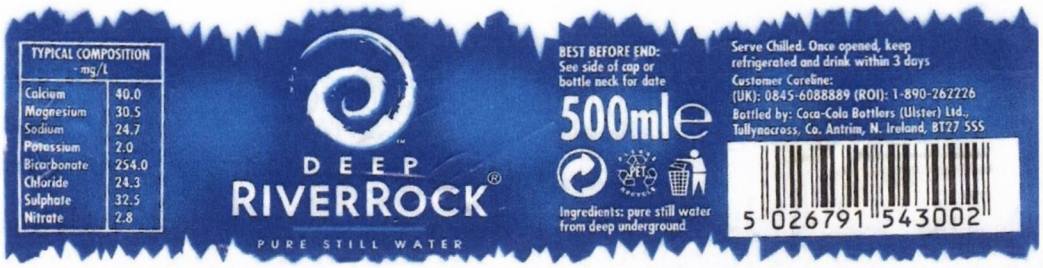

Figure 4.5: Deep RiverRock product label

Deep RiverRock is owned by Coca-Cola Bottlers (Ulster) Ltd, which is part of Coca-Cola HBC. Representatives from Coca-Cola Bottlers (Ulster) Ltd made a distinction between their business operations and those of other Coca-Cola products (i.e. Dasani).

4.7.6 Fíor Uisce

Fíor Uisce is sourced in Tourmakeady, County Mayo, which is located in a Gaeltacht area in the west of Ireland[8]. The water sourced by Fíor Uisce contains levels of silica sodium sulphate.

Figure 4.6: Fíor Uisce product label

[8] Thuar Mhic Éadaigh is Irish for Tourmakeady

It is owned by a group of investors, led by Peter Keane, but also receives government aid due to its location in a Gaeltacht area of Ireland.

4.8 Conclusion

The development of both the theoretical and methodological framework incorporated the belief that critical theory "is never static; it is always evolving, changing in light of both new theoretical insights and new problems and social circumstances" (Kincheloe and McLaren, 2000: 306). The research methods and theoretical concepts employed during the collection and analysis of the data were designed to address recent developments in industrial practice and organisation, regulatory policies and networks, and marketing strategies and messages. This is similar to the "battle plan" recently envisaged by Bruno Latour:

> I simply want to do what every good military officer, at regular periods, would do: retest the linkages between the new threats he or she has to face and the equipment and training he or she should have in order to meet them and, if necessary, to revise from scratch the whole paraphernalia. This does not mean for us any more than it does for the officer that we were wrong, but simply that history changes quickly and that there is no greater intellectual crime than to address with the equipment of an older period the challenges of the present one. Whatever the case, our critical equipment deserves as much critical scrutiny as the Pentagon budget (Latour, 2004: 247).

Adorno's constellation framework has been updated to include theoretical concepts and perspectives that allow for a more thorough understanding of the Irish bottled water industry. This framework now incorporates the agency of nonhuman entities within social practices. It also recognizes how various entities are allied with others and addresses the work that is necessary to maintain the networks that coordinate to produce bottled water. Horkheimer (2001: 226) stated that the "critical theory of society begins with the idea of the simple exchange of commodities" and shows how the exchange economy leads to an increase in social tensions, which in this study

involves both human and nonhuman entities. The next chapter will follow from this advice and begins the analysis of the thesis with a study of the commodification of water through marketing campaigns that support the Irish bottled water industry.

Chapter Five: The Commodification of Irish Water

5.1 Introduction

This chapter explores the commodification of Irish water through the marketing practices and messages that have been used within throughout several generations of Irish bottled water marketing. The constellation framework that organizes this thesis therefore begins with one of the most widespread versions of the identity thinking criticized by Adorno. The commodification of water within bottled water marketing is accomplished through the abstraction of the particular and potential properties of water into the universal definition supplied through the exchange value of bottled water.

This abstraction is part of "the universal development of the exchange system" that "happens independently of the qualitative attitudes of the producer and consumer, of the mode of production, even of need, which the social mechanism tends to satisfy as a kind of by-product" (Rose, 1994: 154). Adorno's criticism of identity thinking envisaged the development of advanced capitalist society and its drive to commodify everything. The dominance of exchange value described later by theorists such as Baudrillard (1983; 1998) was therefore already evident in Adorno's discussion of identity thinking and modern society's interactions with the physical environment.

The analysis of the "commodification" of "nature" is complicated by the ambiguity that surrounds both concepts (Castree, 2003). This difficulty does not result in the need to abandon the concept of commodification, which allows our focus to incorporate many critical elements behind the development of bottled water.

> The commodification thematic thus draws our attention to the process, and therefore the propriety, of certain ontologically and categorically distinct things being seriously altered because of their potential, temporary, permanent or indeed 'denied' commodity status (Castree, 2003: 278).

The ambiguous and dynamic characteristics of water illustrate the difficulties in producing a universal definition of it in any context. The exchange principle still seeks to establish a universal and abstract value for water and this is done at the expense of particular and temporary properties of water.

As in subsequent chapters, this chapter focuses on the "process" that was implemented to develop Irish bottled waters into the commodities that are found on the market today. It first discusses how marketing is uniquely important to the bottled water industry, especially during the establishment of the industry in Ireland. It then explores the strategies that were first used to establish the "regime of values" through which the Irish bottled water market has travelled in Ireland, including the use of regional places and place names. It then concludes by examining how terms such as "purity" have been developed in the marketing discourse.

5.2 Producing Consumers

The bottled water industry in Ireland faced several obstacles unique to its niche in the drinks market when compared to the challenges faced by other products. Unlike some other European countries, Irish citizens are able to use tap water without charge. While sources of water have been utilised in various contexts in Irish society, there existed no tradition of mineral water consumption such as those found in other European countries such as France or Italy. The marketing discourse therefore did not need to simply inform Irish consumers of the product characteristics of various bottled waters; instead there was a need to produce Irish consumers of bottled water. Baudrillard has recognised this need as one of the vital demands of capital today:

> For a long time capital only had to produce goods; consumption ran by itself. Today it is necessary to produce consumers, to produce demand, and this production is infinitely more costly than that of goods (Baudrillard, 1983: 27, quoted in Opel, 1999: 69).

Baudrillard's comment is particularly relevant to the bottled water industry. While Deep RiverRock and Ballygowan possess the largest manufacturing plants in Ireland,

it has been their advertising expenditures and strategies that have been the most influential components of their success. The role of technology within manufacturing plants will be discussed further in Chapter 9, but here it will be acknowledged that manufacturing plants are now able to mass produce bottled water in Ireland. The mass production of bottled water required "business insurance", or, the ability of advertising to guarantee the "profitable and efficient distribution" of bottled water, to consumers (Ewen, 2001: 32-33). The development of a marketing discourse to produce Irish bottled water consumers is therefore connected to the technological developments within Irish bottled water plants that allowed for the mass production of bottled water.

Marketing discourses and practices were required to establish bottled water as a legitimate and desirable product. The most vital feature of the marketing discourse is to provide consumers with a conceptual means of understanding the water found in each bottle of Ballygowan, Deep RiverRock, or any of the other bottled waters in Ireland. Adorno and Horkheimer identified this practice as one of the key aspects of the culture industry:

> Industry robs the individual of his function. Its prime service to the customer is to do his schematizing for him ...While the mechanism is to all appearances planned by those who serve up the data of experience, that is, by the culture industry, it is in fact forced upon the latter by the power of society, which remains irrational, however we may try to rationalize it; and this inescapable force is processed by commercial agencies so that they give an artificial impression of being in command. There is nothing left for the consumer to classify. Producers have done it for him (Adorno and Horkheimer, 1997: 122).

Adorno and Horkheimer do not argue that the individual no longer exists. Rather, the culture industry provides the individual consumer with a set of schematic diagrams for the purpose of understanding products and other parts of the environment. The marketing discourse not only provides a carefully maintained set of categories for bottled water products, but it also works to affect how individuals perceive other types of water. Like the popular Marxist interpretation of the goal of art, advertising "is not a mirror held up to reality but a hammer with which to shape it" (Mayakovsky quoted

in Ribereau-Gayon, 2000: 70)[1]. Marketers therefore must work towards shaping the perceptions of consumers so that they rationalise buying products such as bottled water. This also corresponds to Edward Filene's observation of the relationship between mass production and mass consumption, identifying what he believed to be the "great social task of teaching the masses not what to think but how to think and thus to find out how to behave like human beings in the machine age" (Ewen, 2001: 55).

The need to first convince Irish consumers of the idea of buying bottled water was identified as the most difficult within the marketing field. Respondents, such as industry analysts, advertising professionals, brand managers and creative consultants, highlighted the challenges faced by bottled water marketing in producing bottled water consumers:

> *Your big problem is that you've got to try to convince people of the value of the product, and value that is achieved in the consumer's mind by buying what is ostensibly snake oil. Because you have water, there's no inherent value in it, other than it is water. It is available in the tap.* **TC, Industry Analyst**

> *Because in the end, you are trying to convince someone to basically spend money on something they could, that they were twenty years ago drinking out of a tap.* **GK, Copywriter**

> *Traditionally, there has been a move towards actually selling the idea of water to someone, because there has never been a traditional context for that kind of a product, a consumer water. Because in Ireland you always have had water in biblical quantities, available on tap, or from the skies. So the idea of actually purchasing a water product was something that had to be explained. So, marketing communications for bottled water had to a certain extent, had to sell the whole idea.* **JH, Advertising Analyst**

[1] This quote is also commonly attributed to both Karl Marx and Bertrolt Brecht.

The emphasis of Irish marketing was therefore to produce a paradigm shift (Kuhn, 1996) in the perception of water amongst Irish consumers. Adorno acknowledged that individual "needs were always mediated by society", but through the widespread influence of cultural industries, the satisfaction of needs is now equated to "heeding the rules of the advertising game" (Adorno quoted in Pickford, 2002: 315). The marketing discourse was required to create needs associated with bottled water and this was further exasperated by the lack of a previous market, due partially to the comparatively high water quality and high quantity of water in Ireland.

Following the establishment of the bottled water product and market in Ireland, the marketing discourse must continue to work to differentiate products that tend to be very similar in taste, texture and composition. This is largely accomplished through the brand image created by marketing discourses as described by an advertising executive who states that "the differentiation is in their brand image, which is conveyed through advertising about the source to differentiate between them" (GJ, Advertising Executive).

The importance of image and branding in bottled water is obviously increased when there is little differentiation between the use-value of the different products. Whereas product attributes or qualities can separate different products in other markets, within the bottled water market, "there is no technological superiority. The only thing that differentiates one water from the next is the brand" (Kohil, quoted in Karolefski, 2002).

An added challenge to bottled waters is the competition faced by other drink products that contain added ingredients and flavourings. Rather than advertising ingredients, manufacturing techniques or other product benefits, as is commonly done with other drinks products, bottled still water must rely heavily on imagery and product personality. This is demonstrated in the types of status or lifestyles that are associated with different waters:

> *It* [the type of water] *mostly doesn't make a difference to people, because as I said earlier, water is water. The feeling that people get from water, the reason they choose a brand, is because of what the brand says about them. I*

would describe it as very similar to two identical tee shirts, one branded Gucci, and one non-branded, when the price is basically ten times as much. People don't buy it because one is better, they buy it because there's Gucci stamped on the bank or on the front, so that people can see that they have the money to make that purchase. Similarly with water, you're making a statement about who you are, and the type of person you are. **TC, Industry Analyst**

The belief that "water is water" forces advertisers to attach extra value to their water. Along with telling consumers that they are buying into a certain status, or modern identity, bottled water marketing also attempts to mystify, or to make a fetish of the water's source:

The person has always got to be aware when they see that ad, that this product comes from somewhere that is impeccable ... At least you know with beer, sometimes you might be, you know, we brew this, or we add this, or whatever we do, but with water, you are always trying to convince people that the source of your water is something nearly magical. **GK, Copywriter**

A general strategy of bottled water marketing is to "re-enchant" the experience of consuming water by employing a range of marketing methods. Several of these methods are discussed throughout this chapter and their importance is demonstrated in the fact that many companies begin with a marketing concept that will be used to define their water. A hydrogeologist describes this experience:

Actually, it's funny. Normally when people come to me, they have, they might have a source, or they may have land that they could develop a source, but they always have this marketing concept, and they've gone a long way down the marketing road, and now they need the water, and they know they need a high quality water, and suddenly they're very dependent on me to get the high quality water ... And so, for eighteen months, or two years, I'm the man ... And they have the marketing people working away in the background, but I have to get the water for them. They'll get the water, and then suddenly I'm yesterday's news, and that's the way it goes. **SO, Hydrogeologist**

The hydrogeologist's experiences indicate a development strategy that begins with a strong emphasis on the manufactured conceptual image of water, rather than any intrinsic qualities of the product. The marketing discourse that is told about and through bottled water is therefore a critical component of the industry from the very early stages of development. The following sections will examine several methods used by bottled water companies in Ireland to first establish the industry and then grow the market.

5.3 Regime of Values

In his argument to persuade theorists to return their attention to things themselves, Appadurai suggests researchers explore "the conditions under which economic objects circulate in different *regimes of value* in space and time" (Appadurai, 1986: 4). This section will analyse the advertising-created "regimes of value" through which Irish bottled water must travel on its way to the Irish consumer. In order to "illuminate the concrete, historical circulation" (ibid: 4) of Irish bottled water, it is necessary to examine the ways in which the Irish bottled water consumer was first produced. The mass production of Irish bottled water could not be guaranteed without the necessary supply of a large consumer market. The development of a successful marketing discourse was therefore a critical component in the history of the Irish bottled water industry and this section explores how this discourse was first created.

5.3.1 Re-enchantment of Water

The history of bottled water marketing in Ireland begins with Geoff Read and Ballygowan, and Read's appearance on The Late Late Show as described in Chapter 1 was part of the early development of the marketing discourse. Mass produced Irish bottled water only appeared in the mid-1980's and the relatively small market was first dominated by imports such as Perrier. The first Irish bottled water to be launched was Ballygowan spring water and it experienced significant success in its early years

which has continued up to the present day[2]. Geoff Read, who formerly had been "an electronics technician, male model, landscape gardener, and shoe salesman", founded the Ballygowan company in 1981 after taking a course titled, "Start Your Own Business" with AnCo (now known as FAS) in the Irish Productivity Centre (Ó Cinnéide, B, 1993: 1).

Like others who enter the bottled water industry, Read's inspiration to manufacture Ireland's first bottled water relied heavily on a marketing concept:

> When working as a door-to-door salesperson in the UK, I first conceived the idea of selling Ballygowan. I was attempting to sell a pair of shoes, to a lady in a place called Little Wrapping. She was enjoying a bottle of French mineral water at the time and I thought that if they can sell that with little imagery and lack of proper presentation, there must be a great opportunity for marketing one of Ireland's most natural resources – pure water (Read, quoted in Ó Cinnéide, B, 1993: 1).

Read's comments again highlight the importance of marketing images in the bottled water industry. He considered brand image and presentation as key ingredients in the success of his business venture. Ballygowan's first marketing campaign was an event that was discussed in several of my interviews and was also mentioned in informal conversations I had with people while discussing my research project.

Read was able to initiate the first generation of Irish bottled water marketing by launching a bottled water campaign with a very limited budget, and John Fanning, Director of McConnell's Advertising Agency[3], describes the first developments of Ballygowan's market presence:

> It was launched in a blaze of PR glory when its telegenic founder was given an extended slot on Ireland's most popular TV chat show [The Late Late Show]

[2] Interestingly, the "state of the art" Ballygowan plant (Flood 2001) was celebrated as an achievement of Irish industry. However, as bottled water attempts to present a product that exists outside heavily industrialized society, the plant never features in any of the marketing discourses.
[3] McConnell's Advertising Agency held the Ballygowan marketing account for most of Ballygowan's existence, but recently lost the account to a competitor.

to talk about himself and the brand. The value of the resulting publicity was incalculable, which was just as well because the advertising budget, €12,000, was very small, even in the 1980s. A major debate took place about whether or not to capitalise on the brand's Irish origins. It was decided to ignore them on the grounds that the name and the PR would deal with this, so the launch advertising was an ultra-sophisticated take of a popular restaurant review column in The Irish Times. At the time the market for bottled water was small and sophisticated so it was necessary to counteract any possible advantage Perrier might have in this area (Fanning, 2006: 226-227).

The initial marketing campaign was designed in what Leiss and others would define as the "idolatry" frame of advertising, where "products are abstracted from processes of production, presented as pure use-values" (Leiss et al, 2005: 565). Ballygowan's first campaign is further described by the copywriter of the agency that worked with Ballygowan at the time:

> *It started off as what we call a "nixer". He* [Geoff Read] *came in here* [McConnells], *with more an idea than anything else, worked with a guy called John Walsh, and Catherine Donnelly, and they had no money. They had no budget at all. And, they basically did a little tiny press campaign, ah, Table Water for Two: Ballygowan... and it basically started off as kind of a pastiche of restaurant, you know, "Table Water for Two", and it was about people going out for dinner, and drinking water with their meal.* **GK Copywriter**

The initial campaign targeted "urban, affluent social groups" in Ireland who had the disposable income to purchase bottled water during a meal at a restaurant (Slattery, 2001). It did this by using references to restaurant reviews found in *The Irish Times* and this strategy communicated to a very specific type of Irish consumer. Following this, Ballygowan had to evolve its communications strategy in order to attract a wider consumer base. This need initiated the second generation of Irish bottled water marketing:

When the brand began to grow, market research dictated, well you're gonna have to tell the story of this brand. What is it all about, what is it? All you're doing now, is you're saying, you're talking about Ballygowan, it's this fashionable drink. So basically, through a simple little animated TV commercial, the story of Ballygowan was told on TV...with a very, very interesting voiceover, who just basically explained that this water was discovered not by us, but by crusading knights, 800 years ago, in this place, you know, Ballygowan. Basically, we have been taking this out of the earth, and it is now, it is the purest water, basically, it was 800 years of purity bottled, you know, was the thought. So, we were emphasizing that this was from a pure well, out there in the west of Ireland somewhere, and it was a very, very successful campaign. Obviously, as the brand got bigger, the ads had to get bigger, and we stayed in and around that 800 year area, so there was a lot of mythology, Irish mythology, and you had sort of the Children of Lir, and again it was all emphasizing that this water had a heritage. We're always trying to remind people that this came from a time, you know, it's come from thousands and thousands of years ago, so we're emphasizing not just purity, but almost Irish mythology as well. So, you're hitting them with two things all the time; the purity and the Irishness of it. **GK, Copywriter**

Ballygowan's brand image therefore started off as something that aimed to be "fashionable", "historical", "Irish", "pure" and "mythical", themes that have been used in many of their subsequent marketing strategies. Ballygowan's first campaign also relied on placing the product within a social setting and its advertising has been successful ever since:

> Local entrepreneur Geoff Read launched the brand and within two years it had become the brand leader and doubled the size of the market. Today the market had grown tenfold and Ballygowan is still the brand leader (Fanning, 2006: 226).

The challenge of Perrier's (French bottled water) presence in the market was not the only obstacle faced by Ballygowan. As previously stated in this chapter, Ballygowan

had to convince people to not only buy their specific bottled water, but also to "buy into" buying Irish bottled water.

> *When we first started launching it, we referred to the source. This well, found not by us, but by Knights Templar, 800 years ago, and we referred to the source, this pure magical source in an unpolluted land. We don't have to do it now, because hopefully we have that ingrained in people's minds, but we certainly were emphasizing that this was, you know, unpolluted, pure land that produced this water.* **GK, Copywriter**

Ballygowan's strategy of describing a "magical source" is a very common technique used in the marketing discourse of bottled water. There are differences in the various ways that bottled water companies attempt to "enchant" their water source, but each is trying to accomplish a similar goal. Ballygowan and most other Irish bottled waters try to emphasise the "Irishness" of their source in order to enchant their water with pure qualities and a local identity.

5.3.2 Constructing an Irish Identity

A core element of Ballygowan's brand image was, and is, association with an Irish identity. This is a marketing strategy that has been used by other companies located in Ireland, from Guinness to Brian Boru Vodka, as well as companies located outside of Ireland (Negra, 2001). A central motive behind Ballygowan's Irish identity was to promote the quality of its water's source in order to legitimate its product's place in the Irish drinks market. Many other bottled waters have followed suit, with some revisions to the strategy. The development of Ballygowan's Irish identity will first be analysed and this will be followed by a discussion of how an Irish identity has been utilised by other companies.

Ballygowan, like other Irish bottled waters, has relied heavily upon its association with an Irish identity (Godson 2001). The name, "Ballygowan", is actually the

Anglicised translation of *Baile Mhic Gabhann*[4]. Geoff Read claims that he was not aware that Ballygowan was the name of several townlands in Ireland and a village in Northern Ireland, and it was only when he registered the name that he realised this. However, his motive was always clear – to establish a product name with Irish associations:

> Irrespective of what name we would choose, I wished to identify the product as being an obviously Irish one, while avoiding the leprechaun and stage Irish imagery. What we are trying to sell is a sophisticated Ireland, one that has a great history and culture, yet with the ability to produce a high quality product from a renowned natural resource (Read, in Ó Cinnéide, B, 1993: 6-7).

This is further emphasised by Ballygowan's copywriter:

> *I think certainly in the case of Ballygowan, we've always felt that the fact that it comes from an island, the most westerly island in Europe, the most unpolluted island in Europe, that there was always that level of thinking behind a lot of the early Ballygowan TV work. That it comes from a very, very pure source. So, we've always felt that we had an advantage over water, certainly from England, where you would imagine with so many million people living on that island, it would be hard to keep it pure. And even, say, sort of Evian or Perrier, we've always felt that we've had a bit of an advantage, because most people would have seen Ireland as a less polluted country. And, so, we've always felt that gave Ballygowan an advantage.* **GK, Copywriter**

The use of an Anglicised translation of an Irish town name presents an interesting use of an Irish identity. This interpretation of an Irish identity was brought up by the owner of a smaller bottled water company:

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[4] *Baile* translates to "town". The phrase "Bally" would therefore be a popular phrase found in many Irish town names. Its association with rural Ireland is demonstrated in a common slang phrase "Bally-go-backwards", which is a derogatory term that is used to describe Irish rural areas.

If you look at Ballygowan's original label, and I'm not slagging Ballygowan here at all, look at the original bottle going back ten years. They had a castle on it. It was a Norman castle. That castle is a symbol of occupation, if you wanted to develop it. But that was what they had on their label, you know. They used an Anglicised name, a corruption of their country by a foreigner, as the name of the water. So, you don't need to get a little bit nationalistic about it, you could take that on a bit of a wander. **PK, Company Owner**

Despite certain objections to the elements used within Ballygowan's identity[5], other companies soon followed Ballygowan's example using very similar tactics: "Within five years Perrier had withered away but Ballygowan's success spawned a host of imitators so that for a time it looked as if every county in Ireland had branded bottled water" (Fanning, 2006: 226-227). Several bottled water companies were established around Ireland and the core value of an Irish identity spread throughout the industry.

Ballygowan attempted to halt this process of imitation and to that end it issued a writ against Tipperary Spring water in 1986. At the time, Geoff Read stated that Tipperary Spring was "trying to perpetrate a con on the public by imitating a product that has proved itself on the market" (*Checkout Ireland*, 1986). Tipperary had launched a bottled water that also had a green colour, which was unique to Ballygowan and its green bottle at the time[6]. The general trend of expropriating a rural Irish identity was noted by many interviewees:

It's a difficult one to get into. My personal joke is that you just need a colleen bán on the Cliffs of Moher, being, you know, soaked in wet rain and that's the image that a lot of companies have used. That, you know, spiritual, mystical Irish water, that's somehow better for you than other waters. **TC, Industry Analyst**

[5] This is similar to the strategy employed by Guinness, which constructs an Irish identity around its product in many, but not all, markets around the world. It does this despite the fact that the Guinness company and family opposed Irish independence and were closely aligned with many English interests (Dunne 2003).

[6] Ballygowan has since changed the colour of its still water bottle from green to blue, whereas Tipperary has remained green for still water. Most still bottled waters made in Ireland would today have a blue colour.

Ballygowan's association with Irish rural areas is a strategy that is also followed by other Irish bottled waters. Fíor Uisce makes use of it not only in its Gaelic name that translates to "pure water", but it also used aerial photographs of the location of its bottled water plant. This communicates its location in an isolated area away from industrial activity and this resonates with their American market:

> *And, if you can create an image around the term "Fíor Uisce", being something that is from the purity and cleanness, if you like, an environmental image for the west of Ireland, because again, if you look at the photographs on our website, they're aerial photographs of this area. They're not studio photographs. They're actual, that is Tourmakeady, you know. And, we banned waterfalls, but we do actually have a waterfall, but I've banned drips or waterfalls, but that's just me being pedantic. But no, I don't like drips or waterfalls, because everybody's got them. But, you look, on the aerial photograph of Tourmakeady, and it's a green, empty landscape. It's clean. You don't have factories, you don't have intense agriculture. You've very, even, there's no forestry really up there. It's very low grade. So, the pure water coming from a pure, clean place. You know, I say there's a kind of broad, environmental message being sent there, and many respects, appealing to this kind of, if you, if you look at the amount of room of Ireland, the west of Ireland takes up, geographically, it's quite small. But, if you look in the mental imagery of people in America, it's huge.* **PK, Company Owner**

One common differentiation strategy amongst competitors was to establish a local Irish identity based mostly on a county name. The other major bottled water companies also used Angelicised versions of Irish names, (Kerry is the translation of *Ciarraí*, and Tipperary is the translation of *Tiobraid Árann*), but used the county names in which their water source was located.

> *I think that the Kerry niche of the water is very important. You know, the location of the aquifer is probably a huge key attribute to the brand. The name of the brand, I think, is very good as well.* **TO, New Product Development Manager**

Kerry Spring's strategy was similar to that utilised by Tipperary Natural Mineral Water:

> *Tipperary is a very popular place, it's known for its green fields and the rest, you know. The reason that the name came up was actually an interesting story. Our MD and his wife were away on a trip somewhere, overseas in America or somewhere, I don't know where it was, he tells the story better, but they at the time had discovered this water, and they hadn't come up with a name for it, and they were on this boat out in the sea, and everyone, there was a load of other people from different countries there, and everyone had to sing a song from their country. And they were like, what are we going to sing? And, they actually sang, "It's a long way to Tipperary". And, everybody knew the words, and they thought, well that's actually a pretty good name, we'll call our water, "Tipperary". It's been called that ever since.* **LN, Brand Manager**

The brand manager's explanation is interesting because while Tipperary is the name of a specific county in Ireland, the song from which the name was taken is a well known Irish ballad that international audiences would be familiar with. The three strongest Irish brands at the beginning of the bottled water industry drew upon an Irish identity through the product's name, its product design and its marketing messages. Deep RiverRock was the only large bottled water company in Ireland that did not associate with an Irish identity with its name or product label. Deep RiverRock's first product labels were green and depicted a waterfall but they weren't a direct reference to an Irish countryside. At this time however, Deep RiverRock wasn't a major brand in the Irish bottled water market and was only in the beginning stages of development. This use of local identities is summarized by a brand manager of one of Ireland's largest bottled water companies:

> *The established Irish brands, you would have essentially Ballygowan, Tipperary, and Kerry, they would be the three that would sort of leverage their regional heritage, as it were. They've always based themselves on that, Ballygowan especially, and it's always been, a kind of traditional pull for people. Consumers do like to buy into regionality. They do like things with*

an Irish heritage, and we've done countless research into this. They do like things that have an Irish heritage. They trust it. There's a kind of trust in something that you know, or that you believe you know, or you have a perception you know. Now, with bottled water, on the other side, there's also a strong buy in to imported waters, for example, Evian and Vittel. But again, that's because there's this perception that it's a quality water. It comes from rolling hills. It comes from a perfect source, and I think that's how Ballygowan have done so well, because they've always, their campaign, or their platform, they've always leveraged this Irishness, and the fact that it comes from this gorgeous spring somewhere in the hills, or in the fields of Ireland, and people strongly buy into that. **PC, Brand Manager**

These marketing strategies of introducing regional places within the experience of consuming the brand are a tactic that has been used throughout other industries[7]. It is interesting to note that bottled water brands in Ireland have all avoided constructing a brand image based around the individual that started the company. Geoff Read will not appear on any label of Ballygowan bottled water, as is done with a brand such as Guinness. Whereas Guinness uses marketing campaigns and its Storehouse to build a mythical image around Arthur and his brewing abilities, Ballygowan instead wanted to build a mythical image around the location of its aquifer[8]. The focus is not on the "drilling and bottling expertise" of Geoff Read's technical team, but it is instead the natural and pristine location that is preserved and unhindered. Guinness might highlight the procedures and activities involved in brewing Guinness, but Ballygowan, like the majority of other bottled waters, never mention the processes involved in producing bottled water. The use of regional places is able to counter the uniformity of tap water on the one hand, but also can be used to differentiate bottled water products from one another:

[7] French wines are one example within the drinks industry. Interestingly, European Directives state that a company cannot claim to be from another area on the bottle's label. Despite this rule, Ballygowan is sourced from Newcastle West, Limerick, and not from Ballygowan, County Down, Northern Ireland.

[8] Following the recent sale of Ballygowan to the larger English drinks company Britvic on 14/05/2007, it would be easier for Ballygowan to still claim an Irish identity if it keeps the focus on the source, and not on the ownership.

> These geographical knowledges – based in the cultural meanings of places and spaces – are then deployed in order to "re-enchant" commodities and to differentiate them from the devalued functionality and homogeneity of standardised products and places (Cook and Crang, 1996: 132).

If the "aura" is removed from the consumption of water through the development of tap water's distribution process, then bottled water marketing would be able to substitute meaning with commodification. If the aura of water, or "the presence of that which is not present", is removed, the marketing discourses can be seen to "not strictly counterpose another principle to that of aura", but instead, marketing messages "conserves the decaying aura as a foggy mist" (Adorno, 2001: 102). Water is not shown going through the industrial environment of bottled water plants but instead, marketing uses natural landscapes as ways of reminding consumers of a source located outside of technology and industry. The beginnings of the bottled water market in Ireland therefore incorporated places and spaces into its attempt to re-enchant water and establish the legitimacy of bottled water as a product.

Deep RiverRock, as we have already seen, developed a much different strategy from that of Ballygowan, Tipperary and Kerry Spring. The name "Deep RiverRock" can be applied to a water source that is located anywhere in the world, as it has no explicit Irish association. Part of the reason for this might be found in Deep RiverRock's location in Northern Ireland which, due to its troubled history, might be a place marketers would not want to associate with a product. The generic name provides the company with the ability to adapt its identity with a great degree of flexibility:

> *So, what we've tried to do is to create a* ***culturally androgynous*** *brand, so, if such a term can be used, but, we just didn't want to associate ourselves with any culture as such, just wanted to tap into insights about a consumer.* **NH, Brand Manager**

Deep RiverRock avoided the pursuit of an explicitly Irish identity. It has invested in advertisements in Croke Park, the largest stadium for the Gaelic Athletic Association, and it has also made appeals to the "Irish rogue personality" (NH, Brand Manager), but it has not set out to proclaim an explicitly Irish personality. This is a much

different strategy than Highland Spring in Scotland, which has also faced challenges in establishing the national identity of its brand. The company is owned by the Al-Tajir family, an eminent family from Dubai, but a company representative told English Parliament that the company considered itself Scottish because "we are based in Scotland, the rain falls on Scotland, we have 130 employees based in Blackford, Perthshire over 100 of whom are Scottish and we are registered in Scotland, we bank in Scotland and regard ourselves as being Scottish"[9].

The romanticised presentation of the Irish countryside was used by Ballygowan and several other Irish bottled waters as a means to establish and legitimate claims to purity. This strategy is discussed in the next section.

5.3.3 'Purity' and Bottled Water

One of the central themes that permeate the marketing discourse of bottled water is the concept of "purity". It can be found on product labels, advertising slogans and throughout various aspects of marketing campaigns, and words such as "pure" or "natural" are keywords found throughout bottled water marketing (National Resources Defense Council, 1999 quoted in Wilk, 2006: 309). In competition with other products that have added flavorings, carbonation and other treatments, many bottled water products stress what hasn't been added to its water by human activity. This situation is not confined to the Irish market, as the term "purity" can be found in marketing discourses in markets around the world. Various places and images have been utilised to define the purity of water, ranging from the Irish countryside to volcanic aquifers (Volvic) to the Swiss Alps (Evian). Each brand of bottled water competes to define the location of its water source as the purest.

The vast majority of Irish advertising agencies working on bottled water contracts have sought to establish a connection with purity in the construction of their brand image. This situation is viewed by one advertising analyst as a process of market research talking back to marketing agencies:

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[9] http://www.publications.parliament.uk/pa/cm199900/cmselect/cmscotaf/973/0110810.htm

So in many instances, what you find is, you find trend themes start to emerge in communication, and you find that a lot of marketers start saying the same thing about their products because their research is showing this is what the market is resonating, and is reacting to. So in the instance of bottled water, purity is the buzz at the moment ... Purity is something that, you know, is nice to have, to counterbalance all of the impure things you've been up to. So, there's a lot of common experiences that these marketers are drawing upon, and feedback, packaging and repackaging the message and feeding it back. So, you know, the fact that purity, or pure essence, purity the ingredient, is a common theme is no surprise to me. **JH, Advertising Analyst**

The emerging theme of purity mentioned by the advertising analyst can be presented in slightly different formats, but demonstrates how many "new" marketing strategies actually conform to "the old pattern" of brand communication. Within these marketing strategies, "every detail is so firmly stamped with sameness" that consumers are constantly provided with the same messages even as companies attempt to claim product differentiation (Adorno and Horkheimer, 1997: 128).

Marketing agencies define purity as something that is critical to their brand image, but some agencies have found that purity is a characteristic with which many consumers do not first identify as a reason why they purchase bottled water:

And, ironically then, when you ask people, purity doesn't tend to come up as the reason they buy it. They buy it for lifestyle reasons, they buy because they're thirsty, and because it's stylish and so on. But, when you get them to rationalize it, the only thing they eventually come up with is purity. So, it's an odd one, but it's the reason you can fail dramatically, but most people would claim it's not the reason they'd buy it. But, the justification for that purity is probably the reason most people buy it. **GJ, Advertising Executive**

The confusion expressed by consumer responses is representative of how marketing messages and schematas are thoroughly ingrained within an individual's perception of products. This follows Adorno and Horkheimer's (ibid: 167) belief that "the most

intimate reactions of human beings are so completely reified even to themselves that the idea of anything specifically characteristic of them now persists only in uttermost abstraction". Purity might reside in the background of a consumer's mind, but advertisers realize it is one aspect of a brand identity that cannot be lost, or even diminished, as it plays such a pivotal role:

> *So, what I would say, purity is a very subtle driver, but it has the potential to ruin a brand if you don't, if you can't maintain the position on the top of the purity tree.* **GJ, Advertising Executive**

Purity can be defined in many ways, and the general message of purity is believed to be interpreted differently by different types of consumers:

> *I mean young people would claim to be less interested in purity, in that they would kinda be more brand conscious, but like I say, the brand* [Ballygowan] *evolves and develops around that concept of purity, so it's hard to actually separate the two. But I think certainly that the purity that we're promoting finds an easier audience amongst older people.* **GJ, Advertising Executive**

One respondent familiar with marketing strategies unintentionally summed up the varied meanings of pure during his interview:

> *But in many instances, you have to say, well what does "pure" mean? Pure means what? It's pure Co2? It's pure, you know, it's pure, it doesn't have any mud in it? It's pure of biological contaminants? When you make a vague product claim like pure, it gives you enormous leeway. It would be enormously difficult for you to prove that that is an absolutely false product claim. Ok, so when marketers make vague or broad statements, those in the know, kinda know they can say that, because there's damn all else to say ... People think it* [purity] *means something, but in reality, it doesn't. They say we're pure, because they can't say, we're natural, because they would be passing themselves off as something they weren't. So, I mean, the idea of purity, I think is a meaningless word ... I don't think you can qualify purity. I*

mean something is pure or it isn't. It's an absolute. Pure is an absolute term. **JH, Advertising Analyst**

This interviewee acknowledged that the word "pure" is used in ambiguous ways and "pure" can be both meaningless and an absolute term at the same time. The level of communication constantly delivered to consumers is not insignificant, as it demonstrates the influence large companies have to create consumer discourses. Horkheimer argued that "behind the baby talk of slogans, to which nothing is sacred, is an invisible text proclaiming the power of the industrial concerns that are able to pay for this luxurious stupidity" (Horkheimer, 2005: 99). Furthermore, the continual repetition of the marketing slogans is most significant not for "its sweet recklessness", but more for "its debilitating mindlessness" (Borgmann, 1995: 41).

The ambiguity of the term "pure" is exploited in many different ways. The term allows advertising agencies to incorporate many kinds of references, both visual and written, in their attempts to create an association between their product and the concept of purity.

Because purity is sort of an odd concept, it's very difficult to define and almost impossible to show. When you come back to an advertising sense, how do you show purity? Purity is really having nothing bad in it. But it's hard to show nothing bad in something, so you have to attempt to try and find references, which, as I say symbolize purity rather than showing it in itself. So, we'd shy away from anything which was too, just too real, I suppose. **GJ, Advertising Executive**

The dilemma faced by this advertising executive provides an insightful contemporary example of the power of images as described by Adorno (2000a: 140-141). As the above respondent indicates, the challenge to marketers is that they do not focus on explaining the definition of pure water, instead they must try to use visual references to develop associations with the idea of purity. It is here that "representation triumphs over what is represented" (ibid: 140), as consumers are invited to think only of a visual image associated with purity when they think about bottled water, and the actual meaning of purity. Adorno believed that a reflective onlooker, when "meeting

the laughing placard of a toothpaste beauty, discerns in her flashlight grin the grimace of torture" (ibid: 141).

An experience similar to the one described by Adorno can occur during reflection on the visual images utilized in bottled water marketing. Interactions with the physical environment are reduced to the repetitive slogans and associations produced by marketing agencies. Rather than showing a model's smile to sell toothpaste, bottled water companies use a variety of images and slogans to communicate the concept of purity to consumers. This began with the use of imagery from the Irish countryside.

Ballygowan has built its brand identity around the use of the concept of "purity". The company first created visual association of "purity" with its location in a rural area of Ireland which benefits from a limestone aquifer. This purity is meant to rival the purity of waters that come from other geological structures and geographical areas in other areas of the world:

> *The main ground is always purity. I mean what the source is trying to convey is even more purity. How can we say we're purer than the Alps? Well, we'd say we are because we come from a protected area in Ireland, where the water is filtered through limestone for 800 years. So, you're all the time trying to take the purity high ground, and looking for reasons why you should have that high ground. But it tends to be primarily because of the location, so you're using your location to build your claim of purity. Now around that obviously you need a little bit of integrity, so if anybody gets any sort of whiff that you are actually bottling in a garage out the back of your house, in the suburbs in Dublin, you're doomed, as Perrier found at a cost. So, purity is the knife's edge that we're all balanced on, we're all pushing for the higher ground of purity.* **GJ, Advertising Executive**

The establishment of purity with the Irish countryside was established first with Ballygowan and this association has been maintained through Ballygowan's dominant advertising campaigns. Ballygowan's strategy had been content in keeping a conservative approach to communicating purity as it was aiming to be more reliable than exciting:

So, in general, we're happier to maintain being the high ground of the purest, perhaps not the most exciting, but the one with the most credibility for its purity, the best heritage of purity, the most reassuring brand, sort of concentrating more on the brand itself rather than what it says about you. And then people come to the brand, rather than sort of pushing Ballygowan out to the people in isolation. **GJ Advertising Executive**

Ballygowan was able to convey a message of purity by using rural Irish imagery and with what one advertising analysist calls "a kind of surreal element to it" (JH, Advertising Analyst).

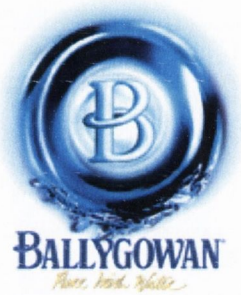

Figure 5.1: Ballygowan: Pure Irish Water

Ballygowan's success has encouraged other Irish bottled water companies to follow suit and they have been able to communicate the same message of purity by using slightly different images and contexts. Interviewees acknowledged the many ways that this could be done, as they described "purity" as an ambiguous term that can mean nothing, or anything:

To be quite honest, I suppose you work off the name, I suppose you work off the natural mineral water [status]. *It's more a marketing thing that should be doing it. Explaining what it is, if you're putting pure on your product, I suppose, what is pure, but then I suppose there's no real answer, you know, what is pure?* **ML, Plant Manager**

The communication of purity to bottled water consumers is a practice that is not unique to the bottled water market, as one interviewee suggests that people would like

to experience something considered to be "natural", due to the fact that modern consumers are far removed from "nature"[10]:

> *It is a definite advantage over a competitor who can't say that. Because to have achieved that purity, you know, it's a natural product. It's not something that we have to tinker or mess with, and people like purity, people like natural products, look at products like Dove, which strip away all of the chemicals, and it's a real successful platform for them to market upon. Because as our lives become, as Western society becomes more urban-based, that we become more removed from nature, we try to seek that return to the land, and to a certain extent, in terms, the best ways that we can live our lives. So, people, this is why people are buying organic vegetables, this is why people are insisting on tracing their meat.* **JH, Advertising Executive**

The advertising analyst's reference to the beauty product Dove is an interesting connection to other products that claim to be "natural". Jhally (quoted in McClaren, 1999) argues that "advertisers are delivering images of what people say they want connected to the things advertisers sell", while Adorno provided a more comprehensive critique when he stated that:

> The culture industry piously claims to be guided by its customers and to supply them with what they ask for. But while assiduously dismissing any thought of its own autonomy and proclaiming its victims its judges, it outdoes, in its veiled autocracy, all the excesses of autonomous art. The culture industry not so much adapts to the reactions of its customers as it counterfeits them. It drills them in their attitudes by behaving as if it were itself a customer (2000: 200-201).

Consumers are invited into the imagery and beliefs that the marketing discourse provides as an alternative to the environment associated with modern lifestyles. Rather than worrying or thinking about all of the impurities associated with modern living, ranging from environmental pollution to individual social problems,

[10] "Natural" has also been questioned by consumer advocacy groups such as the Center for Science in the Public Interest. See http://www.commondreams.org/archive/2007/11/07/5079/

consumers are presented with a product that transcends these difficulties[11]. In the Irish context, worries about pollution of public water sources by intensive agricultural practices or the poorly regulated activities of the construction industry cause concern over the quality of tap water, as well as of other water sources in Ireland. These concerns are further exasperated by the difficulties in pursuing legal means of demanding clean water from county and city councils in Ireland. Jhally argues:

> [Advertising] takes real needs and desires and says they are only satisfied by purchasing products. So what's real about advertising is its appeals. What's false about advertising is the answers it provides to those appeals (Jhally quoted in McClaren, 1999).

Kerry Spring and Tipperary Natural Spring Water have avoided the repeated use of the term "pure" that Ballygowan and Deep RiverRock have employed, but they still appeal to a similar theme. Kerry Spring has used natural imagery in their television campaigns and both Kerry Spring and Tipperary Natural Mineral Water have used the word "natural" on their product label.

Figure 5.2: Tipperary Natural Mineral Water

"Natural" was explained as having some distinction with other bottled waters, as "natural" could refer to a product that was able to call itself a natural mineral water, which is a definition that not all bottled water products can claim. A rival view of the use of the word "pure" occurred when the brand manager of Tipperary felt that the word meant less than "natural". Natural was substantiated by, or associated with, scientific regulation, (i.e. the Natural Mineral Water Status), meaning that the autonomy of nature was only truly confirmed by the work of scientific practices and

[11] The fear of industrial pollution is somewhat ironic, as many believe bottled water contributes to environmental pollution. For an interesting discussion of how people percieve various dangers in or threats from industrial society, see (Douglas and Wildavsky, 1983).

definitions. In comparison, pure was a description that was not justified by any use of science:

> *But we prefer to call it* [Tipperary Spring Water] *"natural". Purity, I mean you have some brands saying purity and they don't even have natural mineral water status. I suppose because "pure" is kind of a word that, what does that, you know, what does that mean to somebody? "Pure" can only mean what it means to the consumer, and what they're trying to portray. "Pure", to me, means, that the water is pure and there's been nothing taken out, and nothing put into it. So, I mean, it's just another word that another bottled water is using, you know, "Bodies never Lie", is what Ballygowan's using, so they're kinda getting across that, you know, drinking Ballygowan, you know, it's good for your body, and it's good for being healthy, and that's another good way to, to approach selling your water and communicating how good your product is. We're using "natural", because we're getting across the natural mineral aspect of the product. The reason we use "natural" is because we can, and some of us can't because we have the natural mineral water status, we'd use "natural", as much as possible.* **LN Brand Manager**

Bottled water marketing creates a connection to an experience with nature through both the use of "pure" and nature", as both seek to proclaim a lack of human activity. Treatment processes, or using technology to transform water into something pure, have been avoided in Irish marketing campaigns and industrial practices:

> *Well I suppose there's a difference if it's just natural, you're just filtering, that's it. You're not interfering with it, and it's still a perfect product. Whereas if you're doing what you're saying, ozonating it, and that, you're probably, I would think doing more harm, because you're probably taking natural resistance, and doing more micro-work, or killing more organisms maybe than what you should, I think you would be affecting, but I suppose that that's the thing that isn't promoted really, but how you get around that, (laughs)?* **ML Plant Manager**

The most common definition of "pure" amongst marketing agencies was the phrase, "nothing added, nothing taken away". This definition differs from that used by science, which relies upon the chemical composition of water. Marketing relies more upon history and a lack of human interference:

> *Well, I think you've got to, we kept on emphasizing this clean, pure source that was discovered 800 years ago. That nothing has changed. That basically all we do is take it out of this well, down in, we never actually said where it was but, I mean, it's obviously down in Limerick. We take it out of this well, and that this has been going on for 800 years, and we don't add anything, we don't do this, you know, we were emphasizing, always, that it's pure, this is as nature intended, this water, you know, is precisely as nature intended. So you kind of emphasize, I suppose, as it were, you don't talk about additives or anything, but the advertising implies that this is utterly, utterly pure.* **GK, Copywriter**

> *And we are pure, because we are natural mineral water, nothing added, nothing taken away. So, there's nothing, it's just, it goes through no process, once it's drilled from the spring.* **NH, Brand Manager**

> *Yeah, well see "pure" to me would mean, I would find it fair to say that Tipperary was pure because there's been nothing added, nothing taken out. I mean, you know, the Dasani water was, I think it was reverse osmosis water, I mean, where you take out the bad stuff, put in the good stuff, and make it taste good. This comes straight from the ground that is filtered then into a bottle. So, I'd call that "pure".* **LN, Brand Manager**

This definition still maintains a control of the water. The catchment area is controlled and interference from industrial and commercial activities is avoided. Bottled water produced in the Irish countryside is therefore a controlled sample of water that claims it has not been interfered with by human activities, even if it is human activity that helps to produce the sample. Chapter 9 will provide a further analysis of how both human and nonhuman activities are strictly contained through the management of a bottled water plant is local surroundings.

Interestingly, if bottled water is drawn from an area that appears to be taken straight from a natural spring, it is doubtful whether consumers would actually drink water from a natural spring in Ireland. One respondent recognised the changing perceptions of purity in relation to Irish water sources when discussing marketing's definition of pure:

> *The purity, using the word purity ... Well, I suppose in a sense, it's a difficult one actually, but in a sense, it's pure in respect, nothing is added or removed, and it is as it naturally was, as it naturally came out of the ground, and I don't think that people are very scientific in their interpretation of the word pure, whereas in the standard we definitely did say that it wasn't a pure substance deliberately, but now, and this is where I would come from, I think that there's a standard, I think that purity is basically people perceive it as being, going down to the well as a kid, and taking water out of the well. And that's where they see it, as long as it's not totally contaminated. (laughs)* **MO NSAI Representative**

Along with differences between scientists and consumers, one company owner who has worked in the Middle East and in Ireland described differences that existed in lay descriptions of water between the Gaeltact in Ireland and the description in Arabic cultures:

> *"Fíor Uisce" is actually a word used for drinkable water out of the ground. Traditional Irish. In any culture, you get past the industrial revolution, and people valued their clean water sources, and they became mystical places. And, most of the holy wells that you see all over Ireland would have been pre-Christian venerated sites, definitely. I would even bet good money on that. Because I've seen this in Arabic cultures, in Far Eastern culture, that clean water is literally the source of life. So, "Fíor Uisce", and even the old people around here will still refer to a good quality spring, as having "Fíor Uisce" ... So, it means a safe, how would you say, reliable, good, healthy source of water. Hence, and so, so that would have been like, that's side of it, but the name "Fíor Uisce" ... I'd say that, in a way I suppose, like if you speak to an*

Arab, they'll call, their term for "Fíor Uisce" would be, can't remember the name now, but in translating, means "sweet water". **PK Company Owner**

Many respondents felt that "purity" was a marketing term used to construct a brand identity and therefore did not invest much importance in the term. These respondents were not located in the marketing field, but instead worked in industry and regulation. That the use of the term is widespread has been acknowledged in both the food industry and the bottled water industry. This could lead to further ambiguity and a weakening of the concept. As an NSAI representative states:

I think, you know, we've gone a bit, the marketing people have gone totally overboard, in my view, on saying this is purity. I don't think they know what they're talking about, but they're just getting market differentiation. **MO, NSAI Representative**

Individuals working within production also acknowledged this definition of pure, while also accepting the scientific definition of pure:

Pure water, if you're to look at it from a scientific point of view, it is H2O. It's distilled water. It would be absolutely atrocious to taste. It is what a water picks up naturally through its journey down through the aquifer that gives it its own special characteristics, and purity to me is that if someone was to drill a hole down, put a bottle on a piece of string, fill it down at 500 metres, put a cap on it, and bring it up, that that water and the water coming out of our fillers is identical. **DS Production Manager**

The scientific view of water, which will be discussed further in Chapter 7, presents another version of purity that is offered by some bottled waters. Ballygowan, Tipperary, Deep RiverRock, Kerry Spring and Fíur Uisce employ an interpretation of purity that proclaims "non-interference" with nature. It is the "non-interference" with nature that allows marketers to claim that they are selling a "pure" product. This strategy differs from one used in the United States, which is discussed further in Chapter 9, where another interpretation of purity argues that pure water is a result achieved after and through a treatment process.

Arthur von Wiesenberger, beverage consultant and proprietor of BottledWaterWeb.com, stated that "people here [United States] drink water because of what isn't in it ... Europeans drink water for what's in it" (Poe, 2000)[12]. One interpretation relies upon a vision of water that has been fenced off from industrial activities, while another bottled water product argues that its water has been thoroughly dominated by technology and industry. In Ireland and the UK, consumers have opted for the former, as the recent Dasani scandal showed how consumers view treated water in an impure light[13]. Many marketers made references to legal approval when asked about the use of an ambiguous term:

> *But, in terms of the use of the semantics, no I think purity is, it's just an insight about water. There aren't many, there's no other product in the entire market that you can say, nothing added, nothing taken away, with the exception of vegetables, but even vegetables come under scrutiny with, you know, pesticides, and you know GM, and whatever. But it's, I wouldn't, as I said, it's just such a fortunate position to be in, to be able to say, "pure", and substantiate it, and that's why people say it.... It falls under two categories, but the legal definition brings them both together. And I know this because I've, I had to do a lot of research prior to being able to launch the new slogan. And, the official legislative stance on purity is, for any product, that you have to have nothing added, and you have to have nothing taken away. And, that brings them both, you know, if a product is good, you don't need to take anything away.* **NH Brand Manager**

> *Well nearly on the advertising legal definition of it, I mean, if you're allowed to say it, you know, it's fine, you know, would be the way that, we would certainly view it.* **GK Copywriter**

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[12] The difference between European and American perspectives of bottled water will be discussed in Chapter 9

[13] Dasani is a bottled water produced by Coca Cola, and holds a significant percentage of the American bottled water market. In March 2004, it was reported that the Dasani produced in a plant in Sidcup, Kent was using water from the Thames River after it had been put through a treatment process. Many English consumers were angered by the revelation, and Dasani was forced to explain how the treatment process purified the water from the Thames. However, later in the month, Bromate was discovered in Dasani products, and it was recalled from the market.

5.4 Conclusion

Adorno and Horkheimer argued that advertising's success can be shown when "consumers feel compelled to buy and use its products even though they see through them" (Adorno and Horkheimer, 1997: 167). The most immediate goal of Irish bottled water marketing was to "naturalize" the idea of buying bottled water amongst Irish consumers. As this chapter has demonstrated, the first generation of Irish bottled water marketing began with a communications strategy that targeted a very specific type of Irish consumer. Ballygowan also initiated the second generation of bottled water marketing by developing a brand identity that sought to enchant a quality around bottled water that would justify the purchase of its product to a larger audience of Irish consumers. Ballygowan was able to maintain a comfortable share of the Irish bottled water market, as it was able to define itself at the top of the "purity" discourse compared to other bottled waters through its large advertising expenditure. The analysis of purity within the marketing discourse was accomplished through a historical analysis that examined how the use of "purity" was connected to several other social categories. It was "a view of the totality, of the mediation of each category", that showed how purity developed, and "this is the critical approach: to show how categories have arisen by deriving them from the historical process" (Rose, 1994: 166).

The discourse established by Ballygowan was soon challenged when a rival competitor decided to use a strategy that was very different from the one employed by Ballygowan and it had enough money to support an advertising campaign that could challenge the claims made by Ballygowan. The next chapter will examine this next generation in the marketing discourse of Irish bottled water.

Chapter 6: Theatre of Consumption

6.1 Introduction

The previous chapter outlined the methods by which the advertising industry works to produce conceptual definitions and perceptual schemas for consumers to use when they see bottled water. The aim of this marketing practice is not to offer a temporary means of viewing bottled water, nor does it attempt to provide an alternative means for viewing reality. Instead, the marketing discourse for bottled water shares the goals of other advertising messages found in the discourses about other products. It aims to construct the means for which consumers should view the world through commodified terms.

Following the initial establishment of bottled water as a legitimate consumer product, the bottled water marketing discourse rapidly developed during the period of Irish history known as the Celtic Tiger. This economic era ushered in vast economic, social and political changes throughout Ireland. The significant increase in advertising expenditure in Ireland was just one of many of the changes that occurred during the period, which resulted in transforming marketing discourses into more established and influential mediums of communication in Ireland.

The "reality of everyday life" (Berger and Luckmann, 1967) in contemporary Ireland is now more constituted by advertising symbols and messages that supplied by the advertising industry. Not only has advertising been able to construct successful campaigns to recruit bottled water consumers, but it has also been successful in doing so for a range of other products and services in Ireland. Advertisements now form a greater part of Irish social processes and this has influenced the different ways in which bottled water marketing communicates to Irish consumers.

Bottled water advertising no longer has to construct a "finite province of meaning" that is detached from everyday life to enchant the water that is in each bottle (Berger and Luckmann, 1967: 39). There is now less of a need to produce images of Irish history to show some "purer" time in the distant past, or to emphasise the location of the water source in some distant and "purer" place. Recent messages within bottled

water marketing are therefore no longer "marked by circumscribed meanings and modes of experience" and are instead seeking to be part of "the paramount reality" that envelops all other experiences on all sides (ibid: 39). As one Deep RiverRock brand manager described it; "I think that the day of the 'twee Irish' is gone" (NH Brand Manager). The implementation of a revised branding strategy is seen through the attempts to place bottled water within social situations that take place within contemporary Irish lifestyles, and this can be understood as the third generation of Irish bottled water marketing.

Berger and Luckmann refer to the setting of a theatre to explain how individuals can temporarily leave the reality of everyday life and it is comparable to earlier generations of Irish bottled water marketing:

> As the curtain rises, the spectator is 'transported to another world', with its own meaning and an order that may or may not have much to do with the order of everyday life. As the curtain falls, the spectator 'returns to reality', that is, to the paramount reality of everyday life by comparison with which the reality presented on the stage now appears tenuous and ephemeral, however vivid the presentation may have been a few moments previously (Berger and Luckmann, 1967: 39).

The marketing industry's saturation of messages aims to make sure that the "curtain does not fall" and instead the presentation on stage envelops the everyday life of consumers in Ireland. This ends "the transition between realities" that Berger and Luckman believed "is marked by the rising and falling of the curtain" (ibid: 39). Rather than displaying the products described in bottled water advertisements as something "out there", or "on a temporary stage", marketing strategies now try to place bottled water products "in there", or within the everyday lives of consumers.

Advertisements are no longer put on stage for consumers to observe and instead the consumer turns into the stage on which marketing processes unfold. The strategy of focusing on the intrinsic qualities associated with the purity of Ballygowan was soon revised due to the emergence of the newly re-branded Deep RiverRock. Deep RiverRock largely avoided the message of pure water produced by the Irish

countryside and instead it questioned the means through which other Irish bottled waters made claims to purity. It therefore questioned the products that "remained on the stage", while it situated its product within the lifestyles of Irish consumers.

Deep RiverRock opted to focus on the extrinsic qualities of its water and designed a marketing campaign that communicated how its water was used within young Irish lifestyles. Deep RiverRock thus began a new generation in Irish bottled water marketing that aimed to portray bottled water as a desirable accessory for young consumer lifestyles. Douglas observed that "there are no items of clothing or of food or of other practical use which we do not seize upon as theatrical props to dramatise the way we want to present our roles and the scene we are playing in" (Douglas, 2002: 124). The following section explores how marketing discourses have encouraged Irish consumers to use bottled water as a prop within their increasingly commodified lifestyles.

6.2 Water as a Theatrical Prop

Deep RiverRock's initial product label and branding strategy relied upon the traditional marketing messages used by Irish bottled waters during the beginning stages of the bottled water marketing discourse:

> *It was clear at the front, and behind it, they had a waterfall. It was about green and the water, and the valleys. That was what it was all about. Didn't work.* **LN Brand Manager**

> *Our* (Deep RiverRock) *packaging featured awful mossy looking, it was actually like hills with water, like a valley, but it was absolutely horrendous looking, and people weren't buying into it.* **PC Brand Manager**

After an inability to gain any significant market share with its conservative marketing approach, Deep RiverRock decided to radically alter its brand image in order to differentiate itself from other products and it was able to draw upon its ownership by Coca-Cola to finance an extensive and innovative marketing strategy. In June 2003, Deep RiverRock launched its "Water You Wear" campaign with an excess of €1

million in its advertising budget (Checkout Ireland, 2003). This thesis views this campaign as a major turning point within the Irish bottled water marketing discourse and as the beginning of the third generation of Irish bottled water advertising.

Figure 6.1: Water You Wear Campaign Launch

Previously, Deep RiverRock and Ballygowan's competitors had imitated the path that Ballygowan had forged of communicating purity in association with Irish rural imagery. Along with claiming to be "Water You Wear", Deep RiverRock also placed itself outside of discourses that focused on the locations of the water source. The campaign instead identified the areas of which it was not trying to claim to be a part, such as rural Ireland or the volcanic aquifer of Volvic. This was communicated in Deep RiverRock's product label:

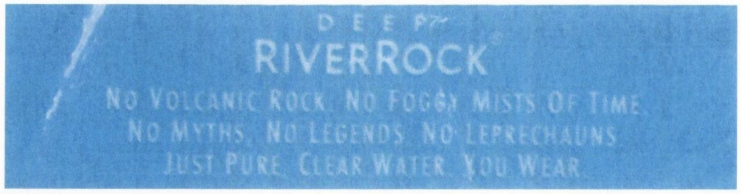

Figure 6.2: Water You Wear Product Label

Deep RiverRock positioned itself outside of the Irish identity constructed by other bottled water companies. This can be seen as indicative of the Irish identities developing from Celtic Tiger Ireland. These identities no longer had to rely on rural, "Oirish" identities:

It was very much a traditionally based market, comprised of really two, three key players, mainly Ballygowan, Tipperary and Kerry. Very much a domestic platform. Water heritage was very much linked with the national heritage. You know, mineral status was often intrical to the actual place of water drilling, as it were. So, the source of the water was very important. So, for example, you know, it's as simple as, they're place names, Ballygowan, you know, Kerry, Tipperary. The brand name itself is linked with the source. Very much traditional. The foggy dew, or the foggy mists, and the leprechauns, I mean that refers to, I suppose, bit of a tongue-in-cheek, not a, you know, it's not an indictment of the, of the landscapes, the water landscape of that time. It's more a social, you know, it's a way to be local without being 'Irish twee'. **NH Brand Manager**

You know, so they're (Deep RiverRock) *positioned purely as a young, you know, they're going after the young market. They're not saying, 'we're an Irish water'. They're not making any product claims at all. They're just making their brand more relevant to young people.* **GK Copywriter**

Some interviewees believed that the "Oirish" identity in the traditional forms of Irish bottled water marketing wasn't necessarily false or outdated, but instead misunderstood. Furthermore, one interviewee felt that the sarcastic, or ironic, identity put forward by Deep RiverRock is what is actually false or pretentious when compared to the more authentic Celtic identity used by his company:

And the Celtic image (of Fíor Uisce) *is kind of, and I'm not being anti-religious here, for our own reasons, we're kind of detaching ourselves from the more superficial side of Irish history, and looking more deeply into the spirit of it. And, by the nature of the logo, the deep colours, trying to create a deeper, more mystical image of the product. And, why the hell not, you know? RiverRock turned around, we don't have fairies, well, shame for you, you miserable buggers. The modern world is too stiff for that kind of thing.* **PK Company Owner**

Deep RiverRock's decision to take a much different approach to branding its water[1] was acknowledged as a necessary move to establish itself in the market by a member of Ballygowan's advertising team:

> *I mean, Riverrock has taken, has been the most aggressive of competitors, I think they were right to take a totally different direction. So, they're into, "It's Water you Wear", this is a cool thing to do. They realize that we dominate that whole area of natural purity, which extends to, I think you're just beating your head against a brick wall trying to get into it, or trying to take a share of it, you just end up advertising Ballygowan on our behalf, because most people say, 'oh water, you know, it must be for Ballygowan'.* **GJ Advertising Executive**

"Water you Wear" presented Deep RiverRock's bottled water as a social accessory and provided it with a different way of communicating to Irish consumers. It is significant that the phrase "water you wear" makes no reference to what uses for which the water within the bottle is physically used. The traditional marketing strategies of the Irish bottled water industry made various references to the superiority of its water over tap water and these strategies aimed to communicate why a consumer should purchase *and drink* a bottled water product. This form of communication was not only aided by the impersonal and anonymous distribution of tap water, but it also benefited from some of the historical uses and perceptions of natural mineral water throughout European history.

In various parts of Europe, natural mineral waters were thought to treat many ailments ranging from helping to break up kidney stones and curing urinary complaints, to helping bronchial complaints, to soothing skin conditions, and those water sources known for their bicarbonate level were thought to ease digestion (Green and Green, 1985: 10). Irish history also contains several traditions involving therapeutic properties of water and the source of Ballygowan is just one example. Local folklore

[1] Ogilvy was the advertising firm that developed the campaign, and it described its brief for the project as follows: "It became evident very early on that the main competitors in the bottled water market were all trading on the same values, notably provenance and Irish folklore. Unsurprisingly, little set them apart. Our task was to develop a unique and differentiating positioning for Deep RiverRock. Hence the 'Water you wear campaign', which had achieved unprecedented levels of awareness and cut-through" (www.ogilvy.ie).

has said the water of St. David's Well could cure those who were possessed by the Fairies, and it was later developed by members of the Knights Templar who were returning from the Crusades (Read, The Late Late Show: 13/5/1987).

Many figures throughout European history, ranging from Roman emperors to philosophers to artists, have believed that water possessed curative traits. Michelangelo credited water sourced forty miles from Rome for improving his health, having claimed that it "breaks up the stone... I have had to lay in a supply at home and cannot drink or cook with anything else" (Green and Green, 1985:10). Along with medical benefits, water was also credited with aiding the work of Johann Wolfgang von Goethe, who once stated, "the next four weeks are supposed to work wonders. For this purpose I hope to be favoured with Fachingen water and white wine, the one to liberate the genius, the other to inspire it" (ibid: 10).

Each of these examples describes a benefit from certain physical properties of water. Water's properties were used to improve health, ward off 'fairies" and stimulate creativity. Deep RiverRock's campaign abandoned any intention of persuading consumers to buy their water to drink it for a specific reason and instead presented its water as a branded accessory for young consumers. Similar to what Rose (1994: 164) observes in advanced capitalist society, the "illusion of pure use-value... has been substituted for pure exchange value. This exchange value has deceptively taken over the function of use-value". Deep RiverRock defined its product to future consumers as an accessory, or prop, to be *used* by consumers for the communication of various messages to other consumers.

Deep RiverRock's revised strategy can be interpreted through the *mise-en-scène* theoretical concept developed by Leiss, Kline, Jhally and Botterill (2005). The concept is used to analyse how recent advertising strategies encourage consumers to use products as "props for the self-construction of changing scenes and life-scripts" (ibid: 565). The focus is no longer on the purity of an Irish rural area and it is instead concentrated on how the Deep RiverRock product can be used to communicate a range of messages about a consumer's lifestyle and identity. Within this new strategy:

> Goods or commodities are the stage-props for the scenes and settings. The 'directors' for the scenes are not the marketers or their brands, however, but the consumers themselves, who can use these props in the service of a virtually unlimited set of creations and re-creations of value and shared meanings. This is why we can call it a demassifying process: Athough the props are themselves mass-produced commodities, and thus bear all the signs of goods fashioned with the labor and material resources of a vast industrial empire, their significance is transformed by their emplacement in this new cultural frame, which encourages individuals to regard themselves as the true artisans of meaning-creation (Leiss et al, 2005: 568).

The open-ended use of Deep RiverRock bottled water as a cultural signifier is comparable to Derrida's definition of the text. The product is located within the marketing discourse of Irish bottled water and this medium has worked to include a range of associations with water. It has included diners drinking water at a restaurant, images of purity from the Irish countryside and an international rugby star drinking water for its health benefits. The communicative potential that Deep RiverRock marketing attempts to invest into the product brings it more directly places the bottled water more conspicuously into social settings and therefore no longer attempts to keep the marketing discourse separated from social situations or identity constructions. Derrida's definition of the text acknowledges this location of a "text" going beyond certain discourses:

> It is precisely for strategic reasons (set forth at length elsewhere) that I found it necessary to recast the concept of a text by generalizing it almost without limit, without any limit that is. That's why there is nothing '*beyond* the text' … That's why the text is always a field of forces: heterogeneous, differential, open, and so on (Derrida, 1986: 167-168).

The shift in strategy adopted by Deep RiverRock was a popular topic of discussion throughout many of my interviews. Those working for Ballygowan's communications strategy recognized the very different approach that Deep RiverRock was putting forward in its marketing campaigns and did not seem to be threatened by the strategy pursued by Deep RiverRock:

RiverRock are, which RiverRock are trendy and sort of, cool, water ... ah, "Water you Wear". They're blatant, on their sleeve, they're saying that "we are a trendy water". **GJ Advertising Executive**

I think it's one of the few industries that ... it's a very, very brand conscious industry, particularly in Ireland at the moment. You know, "Water you Wear" by RiverRock, is all about turning that, you know, almost on its head, in terms of recognizing that people want to be seen wearing a certain brand. **MF Brand Manager**

The Deep RiverRock marketing strategy of being trendy or seen as a fashion accessory "is fluid and relentlessly active" and the rigid style of previous bottled water marketing "is replaced by one of limitless possibilities for fast-paced rearrangements of the setting" (Leiss et al, 2005: 567). The water is no longer anchored in rural Irish places or a separate social system and can instead be associated with a wide variety of contemporary social situations. Not all interviewees saw the Deep RiverRock strategy in positive terms. One brand manager that had worked in the industry throughout the traditional period of bottled marketing was very sceptical of the information provided by Deep RiverRock marketing messages. She believed the bottled water consumer would want to know about various benefits of drinking the water inside the bottle:

Personally, I don't [think Deep RiverRock has a good marketing strategy], *and because I've worked on water for eight and a half years, I'd really like to know where the water comes from. I'd really like to know what I can about its taste, or have they won anything for taste, or if it's a Natural Mineral Water. And, I probably wouldn't purchase a product that was just water. Because again, after the Dasani thing last year, and other waters that can't claim things that ourselves and Ballygowan can, they can't and that's why they're just water.* **LN Brand Manager**

Another member of the bottled water industry was baffled by certain Deep RiverRock advertisements. One of the commercials that accompanied the campaign included a

young person at a clothing store who asks a shop attendant where she can try the bottle on. This caused the interviewee noticeable puzzlement and he used the commercial as an example of explaining his sceptical view of marketing messages:

> *And, if you look at some of the lengths that companies have gone to, in their adverts... Now, I'd love to know how successful this "Water you Wear" campaign that RiverRock did. Because I know my kids would watch that, and said "What's that? It was a stupid advert". But, it doesn't always work that way. You know, you see this woman, gets a bottle in Italy, she's in a shop in Italy, and gets a bottle of RiverRock out of the fridge, and says is there anywhere I can try this on? Absolutely bonkers, like when you think of it.* **PK Company Owner**

The tongue-in-cheek style to Deep RiverRock's strategy was used to gently introduce and communicate the very different message of "wearing water". Nonetheless, behind the message is the subtle promise the company makes "to every individual who is willing to take the plunge, full participation in the successive 'definitions of the situation' that supposedly form the basis of social life" (Leiss et al, 2005: 567). A consumer's use of a bottle of branded water to define themselves and social situations in which they are situated, combined with the ability of the abovementioned interviewee and many others to question the advertisement's message, demonstrates what Adorno and Horkheimer (1997: 167) considered the success of the culture industry. Consumers feel compelled to buy products to signify their personalities, even though they see through the messages delivered by marketers.

The marketing strategy developed by Deep RiverRock attempted to connect to the large disposable incomes of the "Celtic Cubs", young Irish consumers that have large amounts of disposable income to spend on branded fashion amongst other products:

> *It's water that you wear, you know, you look good on the outside, and you feel great in the inside ...It's about, it's water you have on the move. It's water, it's the most seen accessory, must have accessory. It was linking with fashion and youth.* **NH Brand Manager**

Deep RiverRock produced a campaign that presented a commodity that "screens both nature and history" by avoiding any significant reference to the water source or general location in Ireland and it instead sought to transform "its object (bottled water product) into an image, an exchangeable item, a signifier, for which there is no origin or narrative horizon of significance" (Hammer, 2005: 75-76). Deep RiverRock wanted consumers of its bottled water product to use it for communicative purposes. The water within the bottle no longer needed to be enchanted and instead the focus was placed upon what the water's container expressed about the drinker. This strategy abandons the traditional idea of using the bottle, product label and marketing messages to define the water inside the bottle in the hope of persuading a consumer to purchase the product. Instead, the marketing communications now explain to the consumer how the bottle, product label and marketing messages can be used to *define the consumer*.

The revised strategy invests more communicative agency within the bottle of water and presents a much different way of *using* bottled water. This change is similar to saying "magazines exist to sell readers to advertisers", which would demonstrate the agency of magazines by stating that magazines explicitly and primarily distribute advertising discourses to potential consumers (Clarke, 2005: 62). Bottled water now acts to assist Irish consumers in their role as a director who is led to believe that:

> She or he can begin with a blank slate, an empty stage of life, on which can then be arrayed – and continuously reshuffled – the elements of personality, freely assembled from the person's inner psyche; the desired type of social grouping and role-playing; the subtle signals of group identity emanating from an idiosyncratic blend of goods and their many characteristics (Leiss et al, 2005: 568).

The strategy of Deep RiverRock and other companies to situate their products as integral aspects of consumer lifestyles repositions the interaction between the audience and the stage performance. Branded products leave the onstage performances and are now created to perform on consumers and within consumer lifestyles. Berger and Luckman (1967: 35) believed "the reality of everyday life appears already objectified, that is, constituted by an order of objects that have been

designated as objects" before an individual's appearance on the scene. These objects are defined by marketing discourses for use by consumers and they provide the consumer "with the necessary objectifications and posits the order within which these make sense and within which everyday life has meaning" (ibid: 35-36) for the Irish consumer.

Following the influence Deep RiverRock's "Water you Wear" campaign had on the marketing discourse of Irish bottled water, there would soon be less of a focus on "enchanted water" located outside of the everyday lifestyles of consumers. The switch was made to now show how the branded water, wrapped in a bottled water label, could be successfully located *within* the consumer's lifestyle. The following sections will examine how bottled water marketing changed to incorporate this communications strategy.

6.3 Scripting Consumer Performances

6.3.1 Bottled Water within Pure Lifestyles

The Deep RiverRock marketing strategy was delivered at a time when Ballygowan was slowly moving away from its established communications about its brand identity. It began to rely less on a focus on the Irish countryside on which it had relied throughout its entire brand history. Ballygowan began this transition with its "Power of Purity" marketing strategy that invested approximately €3 million over a two-year time period and used a "heritage-themed television advertising campaign" (Flood, 2001). This campaign was further described by Ballygowan's then brand manager: "we've developed a TV ad which was about general, mythical purity, sources of heritage, and roots" (MF Brand Manager).

The setting of the "Power of Purity" advertisement was still situated in a mythical and rural setting, but it was a setting that wasn't necessarily an Irish one. The phrase, "Power of Purity", was used in reference to the intrinsic qualities of Ballygowan's bottled water, but it started a shift towards a marketing strategy that aimed to target a

broader range of consumer lifestyles. This development continued since the very first Ballygowan advertisement that targeted diners at a restaurant:

> The lifestyle attached to bottle water branding has shifted slightly from that of urban, affluent social groups to consumers who are active and health-conscious enough to opt for a "natural" choice (Slattery, 2001).

Ballygowan used the "Power of Purity" to transition its branding strategy into a direct association with healthy lifestyles. The movement away from a strictly "Irish water" is evident in the launch of its one litre sports bottle. The campaign relied upon the communication of the "Power of Purity", but it selected a sports celebrity who was not Irish (see Figure 6.2).

Figure 6.3 Jonah Lomu and the Power of Purity

The launch of the sports bottle used Jonah Lomu, the international rugby player from New Zealand, and was designed to associate purity with power and masculinity and it moved the brand further away from a strictly Irish identity:

> *And then purity around our one litre, has been about purity, and pure power, purity stretched to the whole, no longer about purity, as in pure purity in the product sense, purity of the water.* **MF Brand Manager**

> *So the thinking to use someone like Jonah Lomu was to use a real huge strong sports star, and to try to make, just to try to make the bottle look massive. It's*

a huge bottle. So, the thinking was to try to associate, just power. You know, big bottle, big sportsman, really. **GK Copywriter**

The campaign could have used Irish athletes, even Irish rugby players, as was noted by the owner of another Irish bottled water, who stated that, "they used Jonah Lomu, the all-Black winger … He's from New Zealand, and the biggest icon at that particular time would have been Brian O'Driscoll" (PK, Company Owner). Rather than rely upon an Irish athlete, the company instead moved further away from a reliance on Irish signifiers in the communication of its brand values. The focus was more on the "power" that Ballygowan wanted to associate with its "pure" water and its sports bottle. This was further emphasized by the managing director of the advertising firm that handled the Ballygowan account:

The different bottle designs (1-litre sports bottle) *communicate, and obviously the actual material used, communicate different things, but you're obviously, have to be certain that your brand values, you don't want anything drastically different, and the brand identity needs to be saying that across the board. So, like I say, that part of it has just been an evolution reflecting the new found confidence in the brand, and its diminishing "Oirishness", increasing more, this is now a big successful brand that happens to come from Ireland, would be where we'd see it now. Rather than an Irish brand as it was in the beginning.* **GJ, Advertising Executive**

The evolution of the Ballygowan brand has developed from a communications strategy that has moved away from the focus of a "pure", Irish rural location of its water source and towards a placement of its "pure water" into a "pure" or healthy lifestyle. The changing dynamic of marketing discourse of Irish bottled water, particularly the changes caused by the introduction of Deep RiverRock's "Water you Wear" campaign, encouraged Ballygowan to revise its brand identity to include lifestyle communications. Deep RiverRock had made significant gains in the bottled water market and Ballygowan replied with their Bodies Never Lie campaign:

But as its share has slipped, and in the face of foreign competitors, it has moved into this purity idea. Pure essence, pure power, all of this kind of

mumbo jumbo, for want of sake of a better argument. But, with, reminding people, which is playing to the fact that, you know, people are health conscious, people are buying bottled water because they think its better quality, or better, or more pure, or better for you. Or will fit into a health conscious lifestyle, people who are cautious about what they eat, or on an Atkins diet, or they are trying to flush their system, or they're, all of these things. **JH Advertising Analyst**

This transition has developed over several years. The immediate launch of an image that was focused entirely on a lifestyle association was not a viable strategy for Ballygowan, which had built its core identity around a more traditional Irish image through its focus on the product's attributes. The marketing strategy therefore first situated the phrase "Power of Purity" within a heritage-themed communications strategy and then moved into modern lifestyles featuring an internationally known athlete and other images from contemporary society.

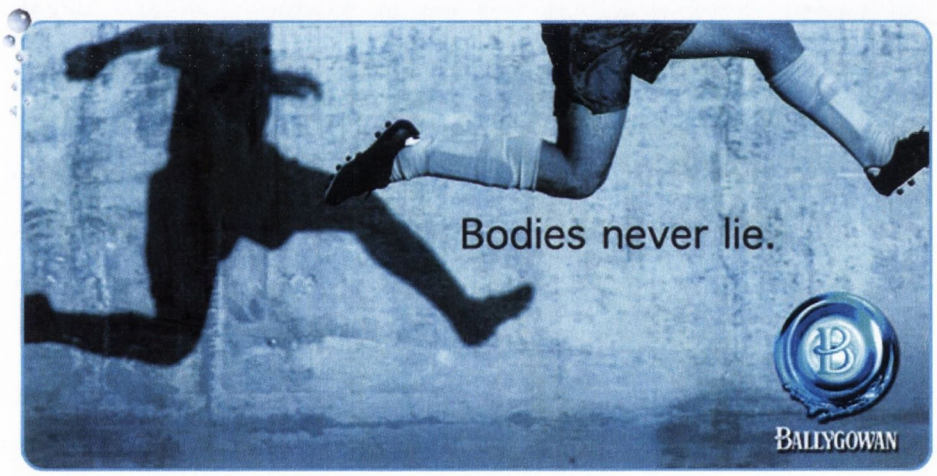

Figure 6.4 Bodies Never Lie

Ballygowan no longer focused on how purity could be found in the water in its bottle and instead focused on how its product could be located within a healthy and "pure", lifestyle:

It's a marketing position, and I think they just described it pretty well. And everybody in their own head likes something to be pure. Something pure and natural and that sort of stuff. And now, in addition to that, they're sort of

saying bodies never lie. So it's actually pure is good for you. It's a lifestyle. It's consistent with where Ireland is at in the Celtic Tiger, and it's got the heritage of being the first. And they're all values that go one on top of the other. **PM Brand Manager**

Ballygowan has recently attempted to counter Deep RiverRock's "Water You Wear" campaign by integrating the concept of purity it established in rural and mythological settings into contemporary Irish lifestyles. Similar to the strategy followed by Deep RiverRock, Ballygowan's current brand communications strategy attempts to place its product within contemporary lifestyles and aims to make the consumer feel confident about what a Ballygowan bottled water says about them:

On the ads, certainly there was a need identified among everybody here that we needed a contemporary image. Ireland is part of the Celtic Tiger. We have a very young population. We wanted the people to feel good about Ballygowan. We wanted a person to feel good if they're walking up the street with a Ballygowan in their hand, that they're sort of making a statement. **MC Plant Manager**

The new communications strategy still relies on the concept of purity, but it now moves in a different direction in the relationship between the consumer and product. The consumer is no longer asked to come to the "purity" of Ballygowan water, but instead the consumer is encouraged to bring Ballygowan into their "pure" lifestyle:

So, the kind of dance campaign over the last two years, "Bodies Never Lie", was the thinking. And, again, it was taking purity, and kind of, where we probably emphasized the purity of the bottle for, or sorry, the purity of the brand for years, we were now getting on to, you know, your purity. You know, "Bodies Never Lie", basically, the whole thing was to throw it back at the consumer. Well, if you look after yourself, you're gonna look, you know, you're gonna look sharp. And we wanted to include Ballygowan as part of that lifestyle basically. So, that's where we are at the moment with it. **GK Copywriter**

Ballygowan moved from a justification of why people should buy bottled water and instead wanted to develop identity associations with their product. Buying Ballygowan no longer meant that a consumer was purchasing a high-quality water. Instead, the consumer is encouraged to use Ballygowan as a "prop" that can be used to live a healthy lifestyle. It can communicate to the consumer and to others that a healthy lifestyle is being lived, although the lifestyle association is not necessarily fixed. Instead, the consumer can use Ballygowan in several types of lifestyles:

> *The power of purity when translated in a selfish way can be whatever you want it to be to make you more beautiful, to make you healthier, to rehydrate you fast. So, again, it's the gradual thing, of purity from an externalization to a more internalization for the widest variety of people. I always prefer not to tell people how they should drink something, or why they should drink something, or eat something.* **GJ Advertising Executive**

> *So, it's "Bodies Never Lie". It's very, it's a key insight, it's about how the water will manifest itself in your physical and mental and spiritual well being, and that's what I take from that ad.* **NH Brand Manager**

Consumers are no longer asked to only associate the purchase of bottled water with the consumption of a purer water than tap water. Irish consumers are now encouraged to use Ballygowan bottled water as part of the "script" to live a "pure" lifestyle. The ambiguity of the word "pure" and the vast range of different scripted lifestyles results in the consumer's ability to use the general guidelines provided by marketing and consider their own improvisations of the message:

> The act of scripting does not and cannot make the surrounding density of the human world disappear. Thus, inevitably, one of the strongest urges is to find a way to "stand out from the crowd", to have one's self-created uniqueness recognized and celebrated, in an environment where everyone else, or at least many others, has the same agenda. In such an environment, originality, uniqueness and "notice" are fleeting phenomena (Leiss et al, 2005: 568).

Deep RiverRock has seen this development in Ballygowan's communications strategy and has replied by also using the concept of "pure" and by also trying to connect to the idea of a "pure", or "impure", lifestyle. The next section will discuss this development in Deep RiverRock's brand image construction.

6.3.2 Bottled Water to Remedy Impure Lifestyles

After establishing its brand with the core consumer group, Deep RiverRock sought to develop its brand identity in a different direction. It had already established the brand's acceptability in social situations and it now aimed to make claims about its product's attributes. The Deep RiverRock brand manager stated that the company wanted consumers to use the "water to cleanse the body, not purify the mind" (NH Deep RiverRock). Deep RiverRock provided an easily understood reaction for consumers who might be critical of Ballygowan's communications strategy. The marketing discourse is therefore able to provide the answer to any criticisms consumers might have regarding Ballygowan's depiction of "pure lifestyles" by also associating bottled water with "impure lifestyles". This makes the act of independent thinking on behalf of the consumer unnecessary, as the advertising industry volunteers to do this for them:

> No independent thinking must be expected from the audience: the product prescribes every reaction: not by its natural structure (which collapses under reflection), but by signals. Any logical connection calling for mental effort is painstakingly avoided (Adorno and Horkheimer, 1997: 137).

Figure 6.5 Purer Than Your Weekend

Deep RiverRock responded to the Ballygowan advertising campaign by moving away from a totally extrinsic-based marketing campaign towards a campaign that included more information about product attributes, if in an indirect way. Deep RiverRock adopted the strategy of using the concept of "pure" in its communications to consumers. One of the reasons for the adoption of the adjective "pure" was to counter the much publicized controversy over another major bottled water in England. The goal is to assure the consumer that their brand of bottled water remains pure, when others have been reported to be otherwise:

> *And a key, there have been a number of key events in water, not least Dasani, which has driven that. So, we knew we needed to inject some communication over the purity of the water. I keep mentioning purity because it's one thing that no water brand, with the exception of Evian, alluded to. We sort of assume people know it's pure.* **NH Brand Manager**

Deep RiverRock developed a marketing campaign that focused on purity, but was far less conservative than Ballygowan's approach. It communicated empathy with a youthful lifestyle. Deep RiverRock advertised the purity of its water in relationship to the "impurity" of a consumer's lifestyle.

> *So our positioning is that we're pure, but we're not pious. And, I think, it's the common thread that the Irish, there's a slight maverick side to the Irish ... it's a celebration of life, including the alcohol, including the non-exercise. We all have the best intentions, but life gets in the way. It's not an indictment of that, it's a celebration of it. So, if you forget to go to the gym, so be it. And, Deep RiverRock isn't going to change your life, but it's a tiny little bit of purity that might make you feel better about the impurities in your life.* **NH Brand Manager**

The development of "Purer than You" prescribed two general reactions for Irish bottled water consumers. It aimed to respond to Ballygowan's pure lifestyles that boasted about the "Power of Purity" and that "Pure Bodies Never Lie". It also aimed to assure bottled water consumers about the quality of Deep RiverRock water after the

quality of Dasani water was thrown into a critical spotlight by the media and consumer groups:

> *We moved to "Purer Than You" last year, after four years of "Water You Wear". We then needed to inject intrinsics into that, because we were scoring so well on extrinsics, and we had our core target market built up. Then, we were starting to lose out on the intrinsic benefits, so people were likely buying into Ballygowan because consumers now, especially with the way there's been water scares, and all sorts of things, they want to know their water comes from a good source.* **PC Brand Manager**

After market research revealed the importance consumers place in the "purity" and quality of the source, Deep RiverRock had to modify what the brand said about, and to, consumers. Deep RiverRock's brand no longer desired to be only a fashion accessory that could be worn by young consumers. It also wanted to be used as a health supplement and a device that assuaged any guilt a consumer might feel about activities that did not directly benefit their health:

> *So as "Water You Wear" was a hundred percent extrinsic, "Purer Than You" would be sort of 60% extrinsic, because it still has the quirky personality and the kind of fun characters etc. in the advertising, but it has then the 40% intrinsic. So, we went with the "Purer Than You" because we wanted to communicate "purity", but we wanted to do it in a quirky way that related back into lifestyle, the lifestyle of our target consumer. So, it's kind of like, yeah we understand that you're not the purest people in mind, but that you know yourself that you need to do a little bit to make yourself feel a bit better, and this our way of helping you, just have a Deep RiverRock water, and that's kind of the essence of "Purer Than You".* **PC Brand Manager**

The difference between the strategies of Ballygowan and Deep RiverRock reveal the sameness in the marketing message. Ballygowan has placed its product within healthy and athletic lifestyles so that consumers can maintain their healthy living by consuming Ballygowan bottled water. It defines its water as "pure" and shows how it can be used within a consumer's life who is leading a healthy lifestyle. Deep

RiverRock also states that its water is "pure" and it explains to consumers how its pure water can act within impure lifestyles. The marketing messages have been designed in stark contrast with sports drinks that use very athletic bodies and has instead incorporated comical situations where people are dishonest about going to a gym to work out. It therefore indirectly discusses the purity of its water by stating that a consumer can reduce the impurity in their lifestyle by drinking Deep RiverRock bottled water:

> *Yeah, when they're* (Ballygown) *saying "pure", they're referring back into their actual product. We* (Deep RiverRock) *are* ***implying*** *that it's to do with our product. Advertising is all about perception, and it's all about a message you get across. So, we're still getting the message of purity across, because our purity scores are actually higher in the brand tracking, are higher now than Ballygowan's are. They're as high as Volvic, and Volvic would be at the top in purity scores, but yeah, because it's a perception, all the companies do communicate purity, they just do it in a different way. Ballygowan try to link it solely into the product, and we try to link it in, whilst it implies that the product is "pure", there's a twist on it, so that our target consumer can relate to it as well.* **PC Brand Manager**

Ballygowan's position as the market leader has encouraged to adopt more conservative messages than Deep RiverRock. Deep RiverRock is connecting to the "wild" lifestyle of young consumers as well as health conscious consumers by telling consumers that the water can be the "pure" balance to the impure parts of their life.

> *I think they use it as a kind of a marketing gimmick really, and they're probably trying to tap into a bit, you know, there's obviously a bit of lifestyle there as well, that you know, well you're out there, you're being a young, wild and crazy person, and you know you're gonna be drinking this, you're gonna be doing all kinds of crazy drinks, but when you want to be, you know, when you want to flush out, use this, and I think they're using the whole pure thing in a kind of a lifestyle way, having a go at Ballygowan as well. It's actually quite clever what they're doing. They're totally tapping into, you know, young imagery. They always have done.* **GK Copywriter**

Deep RiverRock has also recently provided alternatives to Ballygowan's uses of Irish identity through its more explicit use of pure. Deep RiverRock has tried to implement itself within social situations such as sporting events. The campaign has associated the fans' perceptions of Irish amateur domestic sports with the "purity" of Deep RiverRock bottled water:

> *One illustration of that* (associating with an Irish identity) *is we've just recently purchased Hill 16*[2] *advertising. Instead of "Purer Than You", we've tried to really delve into what fuels passion. And it's just, "Purer Pride". "Purer Passion". "Purer Sport". "Purer Spirit". Because that is what the GAA* (Gaelic Athletic Association) *is all about. There's a pride that it's pure. People don't make millions out of it*[3]*. So, that's the spirit behind it. It's all about the game. So, it's tapping into that. And that becomes Irish to people, because people feel that. And I've gotten feedback from people, from Dubs especially, on the Hill 16 in Croke Park, that, when that ad really touched them actually, and you know gave them goosers, because they felt part of it, and so that is a way to be Irish, by being a friend to the Irish, rather than commenting on, you know, trying to tell them who they are. We all know who we are.* **NH Brand Manager**

Deep RiverRock and Ballygowan both used a strategy that incorporated the concept of "purity" into their marketing campaigns. Furthermore, both are trying to integrate their products into the lifestyle associations of consumers, even if each is doing this in different ways. Ballygowan encourages its consumers to develop their pure and healthy lifestyle with their pure product. Deep RiverRock tells its consumers to make up for, or take a break from, their "impure" lifestyle, by consuming their pure water.

The strategies of Ballygowan and Deep RiverRock are designed to counter each other's strengths. Ballygowan has established itself within the market as a trustworthy brand that reinforced its Irish identity and product attributes. Its

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[2] Hill 16 is a section of Croke Park stadium. Croke Park is the largest stadium that hosts hurling and Gaelic football.

[3] GAA sports are amateur sports and therefore the athletes do not receive salaries.

weakness has been identified in its inability to connect to the social settings of young Irish consumers. It is therefore attempting to place its product within these social settings with its latest campaigns. Ballygowan is no longer telling stories that communicate values about the water source of its product. They are now focusing on explaining how the product communicates values within various social scenes. Phrases such as "Bodies Never Lie" and the "Power of Purity" do exactly this.

6.3.3 Bottled Water for Charitable Causes

Deep RiverRock and Ballygowan have dominated the marketing discourse of the Irish bottled water market. Kerry Spring is a subsidiary of Kerry Group and it has relied most on the distribution of other Kerry Group products to hold its market share. Its marketing campaigns are very marginalised in comparison to Deep RiverRock and Ballygowan. Kerry's brand manager acknowledged that the development of Kerry Spring's market share was not the most significant aspect of Kerry Group's portfolio and so it has not been provided with as much brand investment as the other major bottled water companies in Ireland (JP Brand Manager).

Tipperary Natural Mineral Water has also relied on the contracts of its owner. The Gleeson Group is able to provide Tipperary Natural Mineral Water with the opportunity to sell to many different parts of Ireland through the distribution contracts it holds for its various other drinks products. Tipperary Natural Mineral Water's most recent campaign "Water for Africa" has placed its product within a "cause-related" marketing campaign.

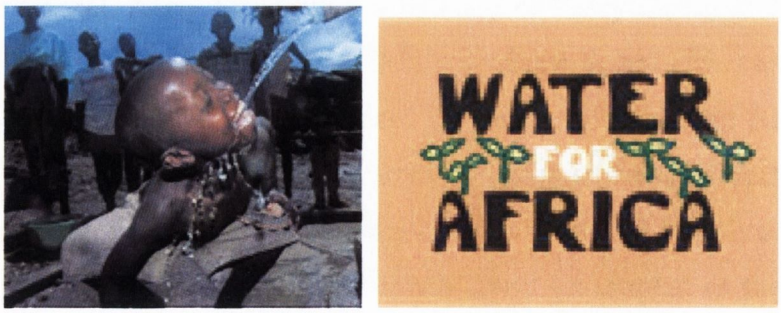

Figure 6.6 Water for Africa: Drink up. Dig deep.

Tipperary's brand manager explained that the campaign was developed after the disastrous results of the tsunami that destroyed several parts of Thailand on December 26, 2004. The wife of Tipperary's Managing Director contacted the charity organisation Concern to ask how the company could help. The company was asked to only donate money and not water. But six months later, Concern's chief director Tom Ireland contacted Tipperary and asked if it would be interested in providing water to other countries.

After this meeting, the company decided to change the plans it had in investing a substantial amount of money in an advertising campaign and opted for the development of the "Water for Africa" campaign. The campaign would use a percentage of the profits from sales of Tipperary Natural Mineral Water to attempt to build approximately 100 wells in Eritrea with the help of Concern. After an initial investment of 100,000 Euros with Concern, Tipperary aimed to raise another 400,000 to 500,000 Euros to give to Concern over the next 18 months. The brand manager described the television commercial that accompanied the campaign:

> *It's an infomercial, and it's just explaining what we're trying to do, and it's not, you don't see bottles of Tipperary Water everywhere. It's not that type of ad. It's just, look, we're just doing something different. If you'd like to come along and help us, you know, if you choose Tipperary Water over another brands, you're just helping us to help the people in Eritrea. Team of three, Concern, Tipperary Water, and the consumer.* **LN Brand Manager**

Tipperary Natural Mineral Water has therefore been able to provide an alternative to the stylish marketing campaigns of Ballygowan and Deep RiverRock by supplying consumers with the ability to use bottled water to make charitable lifestyle decisions. Deep RiverRock has also participated in cause-related marketing. It launched a new "kiddie's pack" to compete with Tipperary Natural Mineral Water's successful kid's pack. This type of product was much different than the product associated with adolescent and young lifestyles and did not fit within part of an "impure" lifestyle. The brand manager describes the challenge of branding the product:

It's a really nice pack. But, we struggled with it, and I personally struggled with it even more than my boss did. But, I really didn't know how to position it, because Deep RiverRock is such a funky, urban youth brand. It ain't a kiddie's brand, and I didn't want to put children's cartoons on a Deep RiverRock branded item. **NH Brand Manager**

Deep RiverRock opted to use a cause-related marketing campaign to launch the product. Deep RiverRock chose to work with UNICEF and it decided to donate forty cents from each sale of the kids' pack of six 330-millilitre bottles. The Deep RiverRock brand manager explains how UNICEF was chosen and what the campaign's message tried to accomplish:

It was a good opportunity to get on board with a very, very worthwhile organisation, and UNICEF is one of the most beautiful, charitable organisations you can ever come across. There's no ethical conflict. There's been nothing, no scandal, to set rife in that organisation. There haven't been any questionable board membership dealings, or whatever. And, it's all about the mother and child. So, I wanted to be able to tap into that insight that mothers, who are the primary purchasers of their children's, would have, that if they're buying a children's item, they would like to see, to know that they're helping other children too ... It's a commercially driven action, but it's also great to be involved in a socially conscious one. But, it is commercially driven, because it's going to sell more packs. **NH Deep RiverRock**

Similar to Rose's (1994: 165) description of an object, Deep RiverRock bottled water is "a terminological mask" that can be used within many different settings towards many different ends. A cause-related marketing campaign is another example of associating a product with a lifestyle choice. The charity and support offered to the tsunami victims in Thailand generated an enormous amount of publicity and this influenced the development of the Tipperary Natural Mineral Water campaign. It was able to provide bottled water consumers with another option in the use of bottled water. The purchase of bottled water was able to provide material benefits to those in need and it was able to provide consumers with the feeling that they were making a change. Deep RiverRock's strategy was very similar. It was able to use the material

benefits from the campaign as a way of advertising to mothers and as a way of not contradicting other messages about its brand identity.

6.4 Conclusion

The history of the marketing discourse of Irish bottled water reveals how the product has been able to become a more substantial part of Irish lifestyles. Chapter 5 examined how marketing sought to legitimate the purchase of bottled water by describing it as something that is "enchanted" and "pure". The marketing strategy made the water more desirable by describing its location from outside of modern and urban settings. The marketing descriptions sought to commodify the water by providing the consumer with specific schema to understand how the water within each bottle was different from tap water. This schema is designed to encourage consumers to focus on specific branded properties of the water and to ignore others. Many properties "slip out" of the definition of water and instead the water is known through its brand identity and exchange value. This results in the further reification of Irish society:

> To say that society is completely reified is to say that the domination of the exchange process has increased to the point where it controls institutions, behaviour, and class formation in such a way that it prevents the function of any independent consciousness (ibid: 158).

Following the establishment of bottled water as a legitimate commodity, marketing then moved bottled water from something far away from contemporary living to something that constitutes contemporary lifestyles. Bottled water is no longer forced to ensure that the water within each bottle embodies "an intrinsic authority" and instead "its claim now becomes communicative; it can function not as an object of veneration but as an instrument of communication" (Benjamin, 1999: 221). Marketing now searches out associations and alliances with experiences in contemporary lifestyles and situates bottled water within them. The consumer is provided with a means of defining identities, lifestyles and social situations through the use of bottled water. This encourages the consumer to understand both the bottled

water product and contemporary society as an inevitable development which results in the reified consciousness of the consumer:

> To say that consciousness is completely reified is to say that it is capable only of knowing the appearance of society, of describing institutions and behaviour as if their current mode of functioning were an inherent and invariant characteristic or property, as if they, as objects, fulfil their concepts (Rose, 1994: 158).

The next chapter will begin the analysis of bottled water regulation. It will examine the scientific discourse that provides scientific definitions of water that are used by regulatory agencies and bottled water companies. The chapter will examine the contexts within which scientific definitions are produced and it will examine the organisations that produce and enforce the regulatory polices that govern the Irish bottled water industry.

Chapter 7: Epistemic Communities and the European Context

7.1 Introduction

This chapter examines the linguistic and contextual setting that provides the structural support for the regulation of bottled water in Ireland through a cultural analysis of the production of scientific knowledge and practice. As Rouse (1993: 58)[1] has suggested, this will involve "investigations of the practices through which scientific knowledge is articulated and maintained in specific cultural contexts, and translated and extended into new contexts". The regulatory network is examined to show how it works to stabilise a variety of human and nonhuman entities in order to govern the practices of the bottled water industry[2]. This chapter therefore demonstrates the contingent nature of scientific practices and examines the contextual background that produces the alignment of regulatory agencies associated with the Irish bottled water industry.

The analysis begins with a discussion of the different categorical definitions employed by regulation to discuss how science is used in different contexts to achieve different goals. Derrida argued that:

> [Scientific objectivity] imposes itself only within a context which is extremely vast, old, powerfully established, stabilized or rooted in a network of conventions (for instance those of language) and yet which still remains a context. And the

[1] Rouse (1993: 64) identifies six common themes within the cultural studies of scientific knowledge: "antiessentialism about science; a nonexplanatory engagement with scientific practices; an emphasis upon the materiality of scientific knowledge; an even greater emphasis upon the cultural openness of scientific practice; subversion of, rather than opposition to, scientific realism or conceptions of science as "value-neutral"; and a commitment to epistemic and political criticism from within the culture of science".

[2] Adorno (1990: 163) argues that "the opposition of the stable to the chaotic, and the domination of nature, would never have succeeded without an element of stability in the dominated, which would otherwise incessantly give the lie to the subject. Completely casting away that element and localizing it solely in the subject is no less hubris than absolutizing the schemata of the conceptual order... sheer chaos, to which reflective spirit downgrades the world for the sake of its own total power, is just as much a project of spirit as the cosmos it sets up as an object of reverence".

> emergence of the value of objectivity (and hence of so many others) also belongs to a context" (Derrida, 1995: 136).

Derrida's perspective does not discredit scientific claims, but instead highlights the contextual influences that produce scientific knowledge. It therefore seeks "to pay the sharpest and broadest attention possible to context, and thus to an incessant movement of recontextualization" (ibid: 136). Scientific knowledges are produced in a variety of contexts and can be influenced by a variety of factors. The second part of the chapter seeks to examine how contextual settings affect the production of scientific knowledge, with particular reference to the influences of institutions and "higher circles". In *The Power Elite*, Mills defines the "higher circles" of modern society by explaining:

> They are in command of the major hierarchies and organizations of modern society. They rule the big corporations. They run the machinery of the state and claim its prerogatives. They direct the military establishment. They occupy the strategic command posts of the social structure, in which are now centered the effective means for the power and the wealth and the celebrity which they enjoy (Mills, 1959: 4).

Mills (1959: 6) argued that families, churches and schools help the economic, political and military domains, "and the symbols of all these lesser institutions are used to legitimate the power and decisions of the big three". It can be argued that today science can be understood as one of the major contributors to power and has even become what Nandy (1988: 2-23) has defined as "a reason of State". Science, in this sense, is used within political and economic contexts and this point is made especially clear in relation to the regulatory agencies that use science to construct, legitimate and maintain industrial practices (Guthman, 2004; Marsden, 2006). The second section of this chapter will explore agencies and actors that influenced the regulation of the Irish bottled water industry. This will include global and European agencies and documents that have formed a series of alliances in order to establish the regulatory framework for industrial practices in Ireland.

7.2 Language, Objects and Contexts

Berger and Luckmann (1967: 16) identify the general agreement "that the sociology of knowledge is concerned with the relationship between human thought and the social context within which it arises". While both marketing and scientific discourses produce knowledges of water, the scientific approach to the concept of "purity" is very different to the one found in the marketing approach and this is due to the different ways each type of knowledge is produced in different contexts. Scientific regulation begins with the belief that the environment must be ordered and scientific knowledge and practices are therefore employed to make the environment usable and controllable. This perspective follows in the tradition of self-preservation often criticized by Adorno[3]. The uses and ends of this control vary with the context in which the scientific knowledge is utilized. The production of various scientific descriptions of drinkable water is comparable to Adorno's analogy of how an essay incorporates concepts within its text:

> The way in which the essay appropriates concepts is most easily comparable to the behavior of a man who is obliged, in a foreign country, to speak that country's language instead of patching it together from its elements, as he did in school. He will read without a dictionary. If he has looked at the same word thirty times, in constantly changing contexts, he has a clearer grasp of it than he would if he looked up all the word's meanings; meanings that are generally too narrow, considering they change depending on the context, and too vague in view of the nuances that the context established in every individual case (Adorno, 2000a: 101).

In contrast to the marketing approach, which seeks to produce many different types of associations with water towards one end (the sale of bottled water), the scientific discourse aims to produce one, universal definition of water in each of the various

[3] For example, Adorno stated that "the world for the ends of self-preservation and recognizes no function other than the preparation of the object from mere sensory material in order to make it the material of subjugation" (Adorno quoted in Cook, 2006: 727).

contexts in which it is being described. Scientific discourses are used towards ends other than just the sale of bottled water, (i.e. regulation of public water supply, industry regulation, recreational use of water, etc.), and scientific definitions attempt to provide the authoritative voice within each context by using different variables that depend on the end use of water. There is therefore an interaction between the scientific language employed and the context in which it is located that demonstrates how "language and context co-constitute one another: language contextualizes and is contextualized, such that language does not just function "in" context, language also forms and provides context" (Shiffrin, 1994: 134). This relation of language and context can also be viewed as an interrelationship between language and praxis:

> Linguistic activities can be seen as working materially to structure social relations by 'in-forming', or instructing the participants in them in various ontological skills, in how to be parameters of this or that kind of activity, so that as persons they come to see and hear and act and do appropriate things in the appropriate contexts, 'routinely', 'naturally', one might say, as if without a moment's thought (Shotter, 1985, quoted in Thrift, 1996: 129).

The 'participants' involved in scientific contexts should not be limited to scientists, scientific language or to human actors in general. Knorr Cetina (2001) identifies the involvement of the 'epistemic object' within scientific contexts, which she defines as having:

> A changing, unfolding character – or its lack of 'object-ivity' and completeness in being; and its nonidentity with itself. *The lack in completeness of being* is crucial: objects of knowledge in many fields have material instantiations, but they must simultaneously be conceived of as unfolding structures of absences: as things that continually 'explode' and 'mutate' into something else, and that are as much defined by what they are not (but will, at some point have become) than by what they are (Knorr Cetina, 2001:182).

Knorr Cetina highlights an additional dynamic element within scientific practices and that is the object of knowledge itself. Scientists are unable to produce concepts that can provide a universal, ahistorical description of what it aims to define and this is due not only to the limited capabilities of language, but it is also due to the dynamic properties of the objects described. Objects such as water can, and do, change, which further demonstrates the contingent nature of all concepts and definitions. To believe that a concept grants direct and immediate access to the object it seeks to define is "the fetish of the irrevocability of things in being" (Adorno, 1990: 52). Knorr Cetina and others have identified the contingency of not only concepts, but the objects themselves. Adorno suggests a similar strategy to counteract the fetish of ready-made products of scientific practice:

> What dissolves the fetish is the insight that things are not simply so and not otherwise, that they have come to be under certain conditions, their becoming vanishes and dwells within the things; it can no more be stabilized [*still-stellen*] in their concept than it can be split off from its results and forgotten. Similar to this becoming is temporal experience. It is when things in being are read as a text of their becoming that idealistic and materialistic dialectics intersect. But while idealism sees in the history of immediacy its vindication as a stage of the concept, materialism makes that inner history the measure, not just of the untruth of concepts, but even more of the untruth of what is immediately existent (Adorno quoted in Pickford, 2002: 323).

In order to resist the fetish described by Adorno, the limits of concepts and definitions must be acknowledged and "the (partial) epistemic objects have to be seen as transient, internally complex, signifying entities that allow for and structure the continuation of the sequence through the signs they give off of their lacks and needs" (Knorr Cetina, 2001: 183). In relation to both bottled and tap water, there were several interesting descriptions of each offered by a range of regulatory actors when they were asked to define their uses and qualities. Tap water is supplied by the state to Irish citizens and its purpose is to provide the public with a drinkable water supply. In its annual report on the quality of

Irish tap water, the Environmental Protection Agency (EPA) uses the phrase "wholesome and clean" to describe water that is located within its quality parameters:

> *And what that means is that, it meets the standards in the drinking water regulations. There's 48 separate standards for different parameters. Meeting those standards would be the key requirement of that...and also, a water that is acceptable to consumers, one that looks and tastes good. Not only does it meet the standards, but also looks and tastes good. And also, one that is free from any pathogens, or any bacteriological, or other parameters, that could cause an effect on health.* **DP, EPA Official**

The EPA is responsible for ensuring that the public water supply in Ireland is of a suitable quality. It uses the phrase "wholesome and clean" to signify that the water is drinkable and meets certain quality measures. Therefore, the definition and label is located within a specific social context and is designed for specific instrumental ends. A hydrogeologist that works with the Irish bottled water industry uses a different phrase than "wholesome and clean" to describe water. This seems to be partially due to personal preference, but it is also influenced by the different context in which he examines water. Rather than testing drinking water to ensure that it reaches certain standards before it is consumed by the public, the hydrogeologist will examine the water in an aquifer as a potential source of bottled water. This leads the hydrogeologist to examine the water in a different way, using a different emphasis in his description:

> *'Mineralised', perhaps, I might use, or highly mineralised, or low mineralization, which would refer to the amount of dissolved solids in it. But, I think that's a personal, that's more of a qualitative description. I mean, wholesome sounds like a pint of milk.* **SO, Hydrogeologist**

When discussing "mineralised" water, the hydrogeologist explains how he would describe certain mineral levels and how these measurements would influence a bottled water source:

I would say you've got, as what quite often happens, Sean, you have elevated Nitrate. Nitrate between fifteen and twenty five milligrams per litre, shows there is contamination there, albeit low level. So, Sean you have a problem with your Nitrate, and I would look down through all of the other parameters. You've got elevated Iron there Sean, that's a problem for bottling. You're going to have to put a treatment system in for your Iron. Sulphate, that shouldn't be high, but it is, we'll have to just check that out, and then I'd look at your micro, if it was fine, I'd say, look you have no problems with your micro, that's great, all year round, or I might say, look, your micro during the winter is great, but during the summer, look at it, it goes through the roof. You've obviously got a problem with recharge during the summer. That's what I would say. I wouldn't say, well that's a crap water, or that's a wholesome water, but it would be three or four parameters that would be cause for concern, that we would have to then sort out...And, then if everything is alright, Sean, you meet all the standards, that's what I would say, I wouldn't say you've got a wholesome water, or a high quality water. You meet all the standards. **SO, Hydrogeologist**

The hydrogeologist is examining water in a different context from the one the EPA operates within, as the water is being considered for a slightly different use than public drinking water. Rather than just demonstrating the absence of certain pathogens or bacteria, the hydrogeologist is trying to prove the existence of certain minerals. These minerals are identified within the perspective of examining "natural mineral water" parameters, and therefore the value of the water is considered in this context. Furthermore, the definition of the water is also influenced by the different physical space in which it is located as well as by its intended use as bottled water rather than as a public water supply. In a similar context, an Environmental Health Officer (EHO) would also examine a bottled water company's aquifer, but would use the phrase "potable" to describe water that he/she finds acceptable. The EHO is not trying to reassure a company owner about a water source's quality and is instead ensuring that the water being used by a bottled water company is of an acceptable quality for public consumption:

We would have terms such as 'potable water', or 'potable supply', basically I suppose free from contamination, no pathogenic material in it... That's what a potable water supply is. In other words, if you go through EC results, there's no E-Coli, there's no Faecal Streps, that sort of stuff, in the water, in other words, every one of those is zero, that's a potable water supply. **BD, Environmental Health Officer**

"Potable water" is a phrase that is rooted in European regulatory documents and legislation, which provides further insight into the EHO's use of the term. The phrase potable does not imply "pure" and as an FSAI representative explains, it means that the water falls within a certain set of chemical and microbiological standards, but does not imply that the water is exclusively "H20":

I mean, by implication, if you look at the directive on tap water or drinking water, there's a whole list of parameters there which it has to meet, which are chemical standards and microbiological standards. So, it's recognised in the drinking water requirements that the drinking water will contain, or could contain, you know, all sorts of dissolved substances there. **RE, FSAI Representative**

An auditor with the National Standards Authority of Ireland (NSAI) highlighted some of the reasons why certain regulatory agencies have differences in their descriptions of water:

In Dublin, Dublin Corporation would be supplying you with water, and they'll tell you Dublin water is pure water. But, in that case, what they have done, is they have taken that water, now I don't know where their water is coming from, it might be coming from a river, it might be coming from a lake. Now, when that water, when in its original state, was not pure enough to drink it, but what they will do, they'll take that through a treatment plant, where they'll add in Adam, and they'll add in Polly, and they'll remove impurities, and they'll put it through

rapid sand filters, and they chlorinate the water, and they'll add in chlorine dioxide into the water, and they might take it through those various treatment mechanisms. They have taken a water that's, what we would call not pure, in that it's not potable, and they will have removed all of those impurities, down to a level, where it is now pure and safe to drink, in that the impurity levels in that water meet the requirement of the Potable Water Directive (EU Directive 98/83/EC). *So, Dublin Corporation are now telling you that that water is now pure, and safe to drink, and that it meets the requirement of the Potable Water Directive. But, they started off with a product that wasn't pure, or safe to drink in its original state, but by various treatments, they are making it safe and pure to drink.* **DM, NSAI Certification Inspection Officer**

The objective of a public water utility is to put water through a series of treatment processes to ensure that the water is drinkable for public consumption. Bottled water regulation also seeks to ensure that its water is suitable for public consumption and, in some cases, it seeks to establish that it abides by Natural Mineral Water directives. Unlike a public water supply, natural mineral water begins with a water source that is deemed suitable for human consumption. Regulatory concerns focus on maintaining the quality of water at the company's water source by regulating the water source's surrounding area as well as the bottled water plant's industrial practices. These differences incorporate different uses of science. The public water supply uses science and regulation to transform a water supply from a previous state into a more "purified" state, whereas the science applied to a company's aquifer seeks to discover an already "purified" or "mineralised" state. Science is used in the former instance to control the water through a conversion process and is used in the latter example to control and maintain the water's "original" state. The scientific definition of water in each case, or the "naming" of water in each context, can be seen as "a way to punctuate the flux, to bracket and ignore differences, to declare them as pointing to an identity-for-a-particular purpose (Knorr Cetina, 2001: 184).

One method of naming or defining water is noticeably absent within the regulatory discourse. Despite its prevalent use within the bottled water industry, the vast majority of regulatory actors would not use the word "pure" to describe water for which they are responsible for regulating. These are individuals that work with public regulatory agencies and with bottled water companies themselves:

> *I think the use of the word 'pure', in terms of drinking water, is a bit of an anomaly. I mean, there's no such thing as pure water. Pure water is a deionised water which is not really potable. I think the use of the word 'pure' is one of these, it's, I suppose a marketing device, because there is no such thing as pure water. It always contains minerals, or it always contains chemicals, or something like that, that is put into the water to either improve it, or something that is naturally present in the water, as a result of where the water is taken from. So, I think the use of the word 'pure' is a bit, I suppose it's a bit, I don't want to say misleading, but it's a bit of a misnomer I suppose... I wouldn't use the word 'pure'. I would use the words 'wholesome and clean', because ultimately that's what it's about. You know, a water that is truly pure, in a scientific sense, contains absolutely nothing, is you know, deionised water, which has absolutely nothing in it, and that water isn't actually suitable for drinking, so I would steer away from using the word 'pure', and certainly, when we're reporting on the quality of water, we would never use the word 'pure'. We would use the words, you know, as the regulations do, 'wholesome and clean', or we would use the words 'compliant with the regulations', or something along those lines, but I wouldn't use the word 'pure' to describe drinking water.* **DP, EPA Official**

Interestingly, the NSAI standard for bottled water (discussed further in the next chapter) also refuses to describe water as "pure" and instead states that "ground water is not a pure substance" (NSAI, 1996: 3). This was a view shared by many of the individuals that have worked with the NSAI Standard:

Well, it's (the water is) *not pure, a pure substance in the sense, the word pure really would be going down to being H2O, pure, you know, just hydrogen and oxygen, and a combination of that. The ground water, because of its environment, it's going to have, one of the issues here is that ground water when it comes out of the ground, will have a bacterial load of maybe ten, it would have less than 100 bacteria per gram, but in fact, once it's left there, they'll grow, and what happens is, you get a growth up and down. Now these are harmless bacteria, but they're there, and there is this issue with regard to people kind of feel, oh you know, if there's bacteria in it, it's dangerous. And so, the whole concept there was that one wanted to get across that in other words, the purity, the whole idea, was to get across the concept that there was A) there could be bacteria in it, and B) there were dissolved ions in there.* **MO, NSAI Representative**

The opening chapter, or section, in the (NSAI) *standard says that it's* (the water is) *not pure in the scientific sense. There are dissolved substances in it, it has to, if it's going through the ground. But, those substances are good for you. Or, that they're not going to do you any harm. And of course there's bacteria, if there's a natural flora and fauna, and the natural mineral water directive allows for the cyclic increase and decrease of bacteria in the bottle. That's normal, like I said, it's like yogurt.* **SO, Hydrogeologist**

Despite scientific definitions that state that bottled water is not a pure substance, Chapter 5 described a marketing discourse that attempts to present a water source at a higher or purer level than the water that is provided by public water supplies or by competing bottled water companies. Marketing does this by using terms such as "pure" or "natural" on their product labels and in their images and slogans. While marketing uses imagery, myth and other discursive devices in its methods to establish the concept of purity in a consumer's mind, the scientific discourse relies upon instrumental reason in its own methods of defining purity.

Adorno and Horkheimer argued that instrumental reason is, like the mythmaking involved in the marketing discourse, a form of mimesis. The scientific discourse begins by immediately stating that the water is not pure, but it is through scientific practices and activities that water quality is kept within acceptable limits. Unlike the lively and imaginative methods used by marketing, instrumental reason is a "mimesis of what is dead" in the object described and it therefore "abolishes animation from nature", so that it "can master this inanimate nature only by imitating its rigidity" (1997: 57).

While the marketing and regulatory discourses both define water for the purposes of control and consumption, they each do so in different ways which permits contradictory definitions to coexist, even on the same product label. Several regulatory agents provided their views on the difference between a regulatory and marketing view of "pure water":

> *That's why I differentiate between pure, in the scientific sense, which means single substance, it's just all you have is H2O, full stop. Whereas pure, from a marketing point of view, means unpolluted, unadulterated, untouched by human hands. That's what they mean by pure... I wouldn't put the word "pure" on a bottled water label, in the scientific sense, because it's not. But in a marketer's world, it's a bit like the word "natural". I mean, that was a big problem with natural mineral water. People didn't understand that the word "natural" means untouched, or unadulterated, or untreated.* **SO, Hydrogeologist**

> *No* [wouldn't use pure in scientific work], *because it's not clear, what is pure, you know. It's a bit like the definitions of natural and pure can be used sometimes in a marketing context that is not quantifiable. I think it's far too subjective.* **TO, New Product Development Manager**

The vast difference in the interpretation of "pure water" between scientific and marketing viewpoints does not cause any concern for regulatory agencies responsible for bottled water. Many bottled waters in Ireland contain the word "pure" in their product label,

suggesting that the marketing discourse has more influence than the regulatory discourse on the product label. This is demonstrated by the hydrogeologist's reference to "a makerter's world", signifying that the end product is located within a marketing, not a scientific, context. This isn't viewed as a significant problem by individuals in regulation:

> *So what does pure mean? And again, you have to ask yourself, really this, are people being misled to a material degree, that they don't know what they're getting? So, if somebody thinks that water is pure, that it's only H2O, the only way we could test that for sure, would be to prosecute somebody, say we think you're misleading consumers by calling this pure, and we know it's not. We know it contains some other dissolved chemicals in minute quantities, that it contains the, you know, some micro-organisms or the remains of micro-organisms, etc., and we'll have to go and check that, and then say this is not pure water. And then a judge will have to say, well are you, are people being misled here, or what? So, it really goes down to your connotation of what do you mean by pure? And how much are people being misled by that? So, I suppose we haven't really felt that it's something that we should go to court on at the moment, and there hasn't been a public outcry from anyone just saying, 'look at the state of the, look at these labels here. What are they doing?' ...We wouldn't have to necessarily wait for a public outcry. If we felt that consumers were being misled by the claims being made, by the statements, or the implications on labels, then I suppose we would take action.* **RE, FSAI Representative**

As described by the FSAI representative, members of the public are able to question the specific use of "pure" in the bottled water context if they felt it was dishonest. The legal decision would depend on a range of issues, but the overall use of science for industry is not something that is largely questioned by consumers. More importantly, there are no avenues for consumers to follow to submit objections to the structural uses of scientific practices within industrial activities. The limited number of possible objections

available to the public serve only to demonstrate the enormous divide between regulatory scientists and members of the public.

> The political asymmetry or inequality between the scientist and the laity is endorsed not only by the concept of expertise which dominates the culture of modern science globally, but also by a philosophy of science which allows the laity to criticize modern science only in terms of its use value, that is, its social and political deployment and not in terms of its end values, that, the social and philosophical goals and assumptions built into the heart of the culture and the text of modern science (Nandy, 1988:9).

Furthermore, the lack of objections to the use of the word "pure" provides an interesting example of Adorno's observation of how lies become truth and how truth becomes suspect. The prevalent use of scientific definitions and advice to persuade consumers to purchase products produces a blurred divide between scientific and marketing discourses:

> The magnetic power exerted by patently threadbare ideologies is to be explained, beyond psychology, by the objectively determined decay of logical evidence as such. Things have come to a pass where lying sounds like truth, truth like lying. Each statement, each piece of news, each thought has been preformed by the centres of the culture industry. Whatever lacks the familiar trace of such pre-formation lacks credibility, the more so because the institutions of public opinion accompany what they send forth by a thousand factual proofs and all the plausibility that total power can lay hands on (Adorno, 2000a: 108).

This observation is especially pertinent when regulatory discourses are produced by scientific agencies to support an array of industrial activities, from nuclear energy (Beck, 1992) to organic farming (Guthman, 2004). Following the scepticism of scientific definitions of "pure" and belief in marketing uses of "pure", the FSAI, even though it is a

regulatory agency of the food industry in Ireland, defers to lay views of purity instead of scientific views of purity when they allow bottled water agencies to use the term, "pure"[4].

> *In some respects, okay we'll do, is there a personal opinion? There is no such thing as pure water, okay, from a scientific point of view, unless you generate it in a lab. On the other hand, what ordinary people think of as pure as being something that's unadulterated, or hasn't, nothing has been done to it. It's just, you know, it's came out, and it's just as water, as it was made, and it came out naturally. So, I don't think they're being misled, really. Now, on the other hand, if, somebody took water, and treated it, through a whole big chemical works to get everything out of it, and they'll say, now that's pure water. Is that pure as people perceive it, either? I don't know, but as I said, hasn't been a top priority for us to think about this, and say, well how much are Irish consumers being misled in this area?* **RE, FSAI Representative**

Scientific definitions are used for a variety of purposes within industrial activities. Within the Irish bottled water industry, industry and marketing utilize the definition that works best. This doesn't necessarily have to be the scientific definition, which demonstrates that "the true nature of schematism, of the general and the particular, of concept and individual case reconciled from without, is ultimately revealed in contemporary science as the interest of industrial society" (Adorno and Horkheimer, 1997: 84). Both marketing and science are employed to add value to the industrial product (Guthman, 2004), and bottled water is no exception to this general practice. Not surprisingly, a bottled water plant owner had a strong reaction to any objections raised by the scientific community over a bottled water company's use of the word pure, as bottled water's use of the word "pure" is no different to techniques used in other marketing discourses: "If any scientist tried that, I'd call them an idiot to be honest like. Get a life, you know. I mean you can do that with so many things, can't you? (PK, Company Owner).

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[4] This is very different to the approach of a consumer advocacy group, Environmental Law Foundation, which filed a lawsuit against Crystal Geyser, Apollinaris, Alhambra, Safeway, Lucky Stores, Ralph's, Vittel and Volvic for their use of "pure" on Monday, March 29, 1999 (Howard, 2003).

An Environmental Health Officer was also not concerned with the disparity found on the product label of bottled water, as he was more focused on the contents of the water itself:

> *Well, I suppose really, that's a labelling sort of issue. I mean you mentioned "pure Irish water", you're actually gearing it toward the Yanks, ah, Americans, you know, that sort of a market. Pure Irish water will sell in America, it will probably sell in Britain, because there's such an Irish community over there... So, I suppose really, pure water, I mean it's just a name that's on a label. Basically, my main role, I suppose from a labelling point of view, labelling is one thing, what's inside is the main thing, and if what's inside is potable, as I would call it, that would be my main aim or concern... I would see it* (label of pure water) *being more marketing, to be honest about it.* **BD, Environmental Health Officer**

Several individuals that worked in regulation described a difference between lay understandings of pure water and scientific definitions of pure water. They generally defined lay knowledge of water by using the phrase "consumer" and sometimes would legitimate a view of water based upon the way they defined themselves as an actor in a social setting:

> *If I was a consumer, pure water would be very different to me, if I was answering a question as a technologist, or as a product development person, or as a representative from Coca-Cola... Pure water, for me, is water that has not been altered, either physically, or chemically, or treated in any shape or form, other than what would fall within the regulations. So, to me, "pure" is pure, it's not tampered with in any shape or form. The purest definition, for me, is mineral water. Something that comes from the ground, and is not adjusted. Pure water for somebody else might be what they filter out of their tap at home using a filtration system. Pure water for somebody else might be something that they buy, and it just reads water. Pure water might be something that is not regulated. Depends on where you come from... it's getting to the definition of what does a*

consumer believe is a pure water, it's probably more important than what do they scientists believe is pure water... Yeah, nothing added, nothing taken away, in it's essence, pure. **TO, New Product Development Manager**

Individuals working within the regulation of bottled water separated scientific definitions of water from lay understandings of water. It seemed that the role of science was to guarantee that the water that was bottled was not harmful to consumers, and the consumers are largely interested in drinking water that will not harm them. Regulatory actors did not strongly object to marketing's use of the word "pure", since the movement from the marketplace to consumer was judged to be a different activity from the movement from the aquifer to the marketplace.

Some regulatory actors felt that consumers should be able to know more about the different contexts in which water could be described and located. However, there were no objections to the implied notion that "pure" water required a divide between society and nature. This is not necessarily a surprising finding, as the scientific contexts begin with a belief in this divide, as well as the belief that water is an object to control from a distance. Kidner states that:

> The language of the modern industrial era is therefore not designed to communicate with the world, but to exclude it, to reduce it to 'things and stuff – a characteristic which makes the task of the environmental philosopher particularly difficult, since talking *about* nature becomes a way of not communicating *with* it, so implicitly reaffirming the separateness of the human realm (Kidner, 2000: 349).

Science therefore has no ideological conflicts with lay or marketing understandings that keep water at a distance from society. The marketing discourse constructed meanings of "purity" of water by attempting to show how sources of bottled water are located outside of scientific tampering. It is a "natural" product because it does not rely on science to alter its chemical composition or "chemical fingerprint". It is able to integrate meaning

through a variety of techniques, many of which can be seen as a response to the public water system in Ireland.

Scientists involved in regulating public water, or inspecting the supply of bottled water companies, can be seen to use different tests and conceptual frameworks to produce their own conclusions about water. These examples illustrate differences not only between the scientific and marketing discourse, but also within the scientific discourse itself.

Comparing the various scientific definitions of water and water quality illustrates ways in which "the concept does not exhaust the thing conceived" (Adorno, 1990:5). Even within the regulatory discourse, different concepts are utilized to facilitate different uses of water. Each of these concepts is employed in different contexts towards different ends, thereby giving each a different type of value[5]. A discursive analysis of these concepts does not result in an overemphasis of subjectivity that Kidner (2000: 356) has criticized for being "colonized by industrialist assumptions and distorted by an overemphasis on language". Instead, an analysis of the different concepts used within regulatory contexts highlights the limited ability of science to describe water. Furthermore, by situating the concepts in each of the specific contexts in which they are employed and then comparing these contexts with each other shows how specific definitions of water are created for specific needs and uses. It therefore works to counter the "atrophy" of water as a petrified and reified object as it is presented and defined in many scientific contexts (ibid: 356). It further shows that language cannot be detached from power within the contexts in which it is used, as definitions and uses of water in each context are supported by alliances of various actors. These actors included institutions such as the Irish Government and the Environmental Protection Agency, as well as individuals such as a hydrogeologist or an Environmental Health Officer. The specific concept applied to water in each context is therefore part of an alliance that has

[5] This is similar to the use of concepts in the organization of tribes observed by Durkheim: "French sociology has taught that the hierarchal arrangement of primitive general concepts reflected the organization of the tribe and its power over the individual. It has shown that the whole logical order , the ranking of concepts according to priority and posteriority, inferiority and superiority, and the marking out of their respective domains and boundaries, mirror social relations and the division of labor" (Horkheimer 2005: 106).

the ability to define the situation in which it can or cannot be used. This role of language demonstrates the ability of language to participate in power relations within each context:

> One should never forget that language, by virtue of the infinite generative but also originative capacity - in the Kantian sense - which it derives from its power to produce existence by producing the collectively recognized, and thus realized, representation of existence, is no doubt the principal support of the dream of absolute power (Bourdieu, 1991: 42).

The following section will examine how a definition and use of water in the context of the bottled water industry is developed by a combination of global and European actors within a shared epistemic community.

7.3 Epistemic Communities

The regulation of bottled water supports the "collective representation" of water through agreed upon language in an "epistemic community" (Haas, 1992). This concept builds on Foucault's "episteme" (2001), as well as on the notion of actor-networks as established by Callon, Latour and Law. Haas (1992: 2) defines an epistemic community as "a network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area", which does not necessarily consist entirely of scientists[6]. The epistemic community would therefore be less random than and would depend less "upon a complex web of interrelations in which Society and Nature are intertwined", as Callon (1986: 200) identified in his example at St. Brieuc Bay.

[6] Haas (1992: 3) states that, "although an epistemic community may consist of professionals from a variety of disciplines and backgrounds, they have (1) a shared set of normative and principled beliefs, which provide a value-based rationale for the social action of community members; (2) shared causal beliefs, which are derived from their analysis of practices leading or contributing to a central set of problems in their domain and which then serve as the basis for elucidating the multiple linkages between possible policy actions and desired outcomes; (3) shared notions of validity – that is, intersubjective, internally defined criteria for weighing and validating knowledge in the domain of their expertise; and (4) a common policy enterprise – that is, a set of common practices associated with a set of problems to which their professional competence is directed, presumably out of the conviction that human welfare will be enhanced as a consequence".

The regulation of Irish bottled water is situated within a vast historical tradition of international food regulation that involves a range of international institutions and agreements. International food regulation has developed over many centuries and can be traced back to the laws of Moses (Leviticus 17:24; Dueteronomy 25: 13-15; quoted in Braithwaite and Drahos, 2000: 399). Regulation has evolved through various eras which have been influenced by different political and economic ideologies[7] and it now occupies an influential role in the governance of food production, distribution and consumption. The influence of international regulation on Irish bottled water can be seen in the activities of Codex Alimentarius[8].

Codex Alimentarius falls under the responsibility of the United Nation's Food and Agriculture Organization (FAO) and the World Health Organization (WHO), as both these parent organisations are involved in the establishment of international standards. The FAO was established in 1945 and is responsible for food nutrition and international food standards. The WHO was founded three years later in 1948 and is responsible for human health and food standards. The decision to establish Codex Alimentarius was officially made during the first meeting of the Joint FAO/WHO Expert Committee on Nutrition in 1950[9], where it was agreed "that there was a need for the international harmonization of food standards based on science" (Isaac, 2002: 79).

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[7] Braithwaite and Drahos (2000: 417) state that, "In broad terms, the history of the regulation of the global food trade began with a mercantile model based on contract and caveat emptor until 1862. The British Merchandise Marks Act 1862 begins an era of defending the reputation of food exports against false use of trademarks and British efforts to globalize this intellectual property regime. Early in the twentieth century some major agricultural exporters such as Australia sought to secure a national brand image of quality by regulating for export standards. By the time of the creation of the Codex in 1962, the export-standards era was over. Codex was a regime for harmonizing standards set by importing countries. It built substantially on European regional accomplishments in harmonization, with the mechanism of reciprocal adjustment proving powerful and in most cases comparatively politically painless. However, reciprocal adjustment is unlikely to work so smoothly with the contemporary debates on genetically modified food".

[8] "Codex Alimentarius" is Latin for "food code"

[9] "The Codex Alimentarius Austriacus had been established in the 1890s to regulate the considerable movement of food across the diverse Austro-Hungarian empire. Between 1958 and 1963 fifteen to twenty-one European states attended meetings of the European Codex and the US and some other non-participating states became nervous about the trade implications of this European agenda-setting. The US pushed for a worldwide Codex Alimentarius Commission in Rome in 1962, something Europe was keen to support because the thin infrastructure of the European Codex was proving inadequate". (Braithwaite and Drahos, 2000: 400-401)

A central aim of Codex Alimentarius was to create universal definitions and standards, which could be applied throughout all food markets. "At its inception, Codex set identity standards -- that is, descriptive standards for foods -- so that traders around the world would, for example, have a common understanding of what was being bought and sold as 'peanut oil'" (Public Citizen, 1997). The success of Codex Alimentarius is considerable, as it's been called "the most important international organization in the globalization of food standards" and "has achieved much more rapid and sweeping success in globalizing standards than either of its parent organizations" (Braithwaite and Drahos, 2000: 405-406).

One hundred and fifty-four countries are members of Codex and both Europe and the United States are participants. Along with a variety of food and sanitary standards, the organisation has produced standards for the bottled water industry. Two Codex standards have been written for Natural Mineral Waters and two Codex standards were produced for waters other than Natural Mineral Water[10].

Ireland is a member of the Codex Alimentarius Commission, and regulatory actors in the Irish bottled water industry would be familiar with the organisation:

> *There is an international agreement under, or an international standard for drinking waters, for bottled waters, by what's called Codex Alimentarius. Codex Alimentarius is an international body that belongs jointly to the Food and Agriculture Organisation, and the World Health Organisation, and they develop codes, or standards, for foods, or for food management systems. So, they have a standard for bottled water. So, if the European legislation is, acts as the arbiter,*

[10] These standards for natural mineral waters are the Codex Standard for Natural Mineral Waters (108 - 1981 Rev 1 1997) and the Recommended International Code of Hygienic Practice for the Collecting, Processing and Marketing of Natural Mineral Waters (CAC/RCP 33-1985), and the standards for other waters are the General Standard for Bottled/Packaged Drinking Waters (other than Natural Mineral Waters) (227-2001) and the Code of Hygienic Practice for Bottled/Packaged Drinking Waters(other then Natural Mineral Waters) (CAC/RCP 48-2001).

as the referee in Europe, on the world stage, the Codex standards are what apply.

RE, FSAI Representative

While the FAO claims that Codex should be utilized by consumers, producers and regulatory agencies[11], it is important to note that "the biggest funder of the establishment of the Codex Alimentarius commission was not the US state but the US food industry" (Braithwaite and Drahos, 2000: 401). The alliance of industry, government and science within Codex[12] is defined by what Isaac (2002: 78) defines as "the Codex approach", which "has always been congruent with the scientific-rationality approach to regulatory development... and due to its focus on scientific rationality, economic interests supported the linking of the Codex with international trade agreements". This link between industry, scientific rationality[13] and food standards "suggests that science-based corporations are sometimes reluctant to err on the side of caution (the precautionary principle) at the expense of their short-term profits" (Sklair, 2002: 150).

The administration of Codex Alimentarius has been considered "a top-down approach to developing universally acceptable food standards", which "reflects a scientific rationality approach to regulatory development" (Isaac, 2002: 87). Codex meetings to develop specific standards do not appear to be hosted by random countries within the membership, but instead have been located in countries where established industries related to the standard exist[14]. In both its funding and organisation[15], Codex Alimentarius

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[11] The FAO (2005: iv) defines Codex Alimentarius as "The global reference point for consumers, food producers and processors, national food control agencies and the international food trade. The code has had an enormous impact on the thinking of food producers and processors as well as on the awareness of the end users - the consumers. Its influence extends to every continent, and its contribution to the protection of public health and fair practices in the food trade is immeasurable".

[12] Avery, Drake and Drake (1993) demonstrated the significant influence the industrial lobby held by investigating who the participants in the 1989-1991 Codex session represented.

[13] The stress of scientific rationality and objectivism is highlighted by Braithwaite and Drahos (2000: 409): "For example the document Introducing Codex Alimentarius (Codex 1987) says 'At all times the need for objectivity has influenced the development of these procedures' (p12) and 'The discussions take place in an objective and scientific atmosphere from which considerations can be eliminated' (16)".

[14] This system generally results in most of the meetings' being held in and financed by groups in First World countries in which major food industry corporations are domiciled. Examples of this are clearly to be seen in the commodity committees, for example, at the 1999-2000 meetings. The Fish and Fishery Products Committee was hosted by Norway' Milk and Milk Products, and Meat Hygiene by New Zealand; Cocoa and Chocolate, and ***Natural Mineral Waters*** by Switzerland; Processed Meat and Poultry Products

and the standards it produces are heavily influenced by industry, leading Braithwaite and Drahos to argue that:

> Although farmers and small business do most of the value-adding to food, it is the transnational food manufacturers and agrochemical corporations which dominate regulatory fora and set regulatory agendas, partly through their influence over the most influential state, the US, but more through shaping early drafts on Codex technical committees that set the framework for larger debates (Braithwaite and Drahos 2000: 408).

The role of Codex Alimentarius today is not only to provide universal definitions of food products, but since the 1993 Final Act of the GATT Uruguay Round, where The Agreement on Sanitary and Phytosanitary Measures was produced, Codex standards now "act as a reference in trade disputes" (ibid: 403). This agreement placed the role of the global food trade in a more influential position within the application of Codex standards. If a country, such as Ireland, wanted to develop a standard that was more stringent than what was found in a Codex standard, "the burden of proof" would be on Ireland to provide scientific evidence to justify the departure from the Codex standard (Public Citizen, quoted in ibid: 403).

7.4 European Context

7.4.1 Introduction

The European Union participates in the formation of the food standards produced by Codex Alimentarius, and it also produces European Directives that apply to Ireland and the Irish bottled water industry. While there have been recent changes to European regulation, the legal basis of EU food-safety regulations were first established in "Article

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by Denmark; Fats and Oils, and Sugars by Britain; and Processed Fruits and Vegetables, and Cereals by the United States" (Sklair, 2002: 149).

[15] A further discussion of the administration and structure of Codex is found in (Isaac, 2002: 80-88).

100a of the Treaty Establishing the European Communities, in which facilitation of the internal market is the primary objective" (Isaac, 2002: 209). The development of European Directives has been aimed at harmonizing the standards within the European market, which include the collection of bottled water directives that have been produced.

The first European Directive for the bottled water industry was published on August 30th, 1980 under the title of Council Directive 80/777/EEC, which was later amended by Council Directive 96/70/EC on November 23rd, 1996. This legislation was then followed by the Council Directive 98/83/EC on November 3rd, 1998, which was later updated on October 23, 2000 by Directive 2000/60/EC. A more recent update took place on December 20, 2001 with Commission Recommendation 2001/60/EC. These directives were transposed into Irish law under S.I. No. 278 of 2007, on June 12th, 2007. These documents form the basis of bottled water regulation in Ireland[16]. Groups that have created regulatory documents in Ireland and that have been heavily influenced by the standards put forth in earlier European documents are now subject to the legislation created at a European level. These directives were published in order to set a universal standard within Europe, even though they were each created under conditions that were not objective. The next section will describe how vested interests can influence the creation and scope of European regulation.

7.4.2 Vested Interests

While the European commission attempted to "remove the politics from regulatory convergence among member states" (Isaac, 2002: 208-209) by publishing the White Paper on the Single European Market in 1985, the creation of the bottled water directives demonstrate that national differences still affect the content of regulatory standards. During interviews with regulatory actors in Ireland, it was clear that many felt that the standards were influenced by industries that had already been established in the European

[16] European legislation has also been produced that govern general water supplies. For example, the S.I. No. 378 of 2006, European Communities (Good Agricultural Practice for Protection of Waters) Regulations 2006, regulated Agricultural activities. There has also been the recent EU Water Framework Directive which regulates the provision of public water supplies.

market. For example, French companies were allowed to incorporate transport and filtration of water into the definition of the Natural Mineral Water within European Directives:

> *I believe natural mineral legislation was flawed in respect that they allowed the French to transport water to the bottling plant, because they've been doing it. So, that those companies that had been transporting prior to it's being done. I also have a problem with the concept now, that they're allowing some sorts of treatments be done on the bottled water, which I thought was illegal in my view, but what they were doing, they were taking the carbon dioxide out of the water, and then reconcentrating it. That they have carbon dioxide in the water. So, they were taking it out for the still water, and then, filtering and putting it back into the other, and this is where the problem, as you know, happened in Perrier.... It was the filtering. Now, that to me, was, I think, in my view, I think, it may have been legal, but it certainly was not within the spirit, I would believe, of natural mineral water, which is basically water as it comes out of the ground, which is naturally protected from contamination.* **MO, NSAI Representative**

The large bottled water market that had already existed in France therefore influenced the scientific policies adopted within the European Directives on bottled water. This conflict of interest questions whether European regulatory actors "can identify national interests and behave independently of pressures from the social groups they nominally represent" and whether European countries can "respond consistently to opportunities to create, defend, or expand their own wealth and power, to enhance collective material benefits, or to promote nonmaterial values" (Hess, 1992: 1). The type of water used within the French market (i.e. Perrier) had a specific chemical composition, which influenced the type of treatments that were considered permissible by European regulatory actors. The French regulation officials were engaged in protecting their water industry and, according to one regulatory actor, the French do this with their other industries in the food and drink sector:

Well, it was the French protecting their industry. That's what it (permitted treatment) *came from (laughs).... I think it was the French really, pushed this, and got it in. They are very good at that. You see there is a lot of bureaucracy in France, but having said that, they look after their natural products very well. Their cheeses, for example, their drinks, all, you know, the champagnes, etc. They have all this control, all this, the French are very good at this kind of differentiating their products.* **MO, NSAI Representative**

The German bottled water market was another major influence on the creation of the EU Directive. Germany was a major contributer to the EEC and also had an established bottled water market. Similar to the French example, German waters were unique and also required specific treatment:

The problem with the Natural Mineral Water Directive is that it was written by the French and the Germans, so it suits their industries. The Germans have a major problem with Iron, so ozone was allowed in the original directive, because ozone oxidates, Iron comes out of solution, they can filter it, and they got perfectly clean water. And, France wanted this, the source itself as it emerges out of the ground, to be wholesome, you know, free of any pathogens and any chemical parameter that might make you ill. So, they wrote, basically they wrote the Directive, and when Ireland joined in '72, and we had no bottled water industry, so we probably didn't even have a representative on the committee. **SO, Hydrogeologist**

The development of bottled water regulation, like the development of other types of food regulation, was influenced by national interests and the concerns of established industries. Even though the creation of European Directives was not considered to be "objective" by regulatory actors in Ireland, all interviewees in the regulation sector believed the drive towards harmonization of standards throughout the European market was a desirable goal.

7.4.3 Harmonization

While the EU Directive declares that their definition is universal, it has been noticed that there are different interpretations between different companies and countries:

> *Well, I could be very facetious and say, the Directive said that it should be all the same, but I know it's not. The industry has means at its disposal to make sure it meets all the standards, even if the water at the source doesn't. So, I know for a fact in Greece, because I met a Greek bottled water producer, who happily told me all the treatment that he does, and yet his bottled water is "santarina", it's natural mineral water, I can't even remember what word, "theodopolis" natural mineral water, and I was shocked, because I know in Ireland, there's a few grey areas, which you may or may not be aware of, but there are a few grey areas, but that's all they are, are grey. Generally, I would say hand on heart that the Irish bottled water industry conducts itself in a pretty honest way. So, we would adhere to the European Bottled Water, rather, Natural Mineral Directive, and if you don't meet Natural Mineral Status, then by default you must meet the drinking water standard. So, they'll meet the drinking water standard, which again, is European-wide. So, in that sense, it should be the same, but I know that the, it depends, it goes back to the policing, or the regulating. The regulators in Greece obviously have a different interpretation to the Irish.* **SO, Hydrogeologist**

Another example is when the United Kingdom tried to stop the import of Irish water by trying to accuse Irish companies of producing bottled water that did not achieve the standards understood through their interpretation of the European Directive:

> *I know for a fact the U.K., back in the 80's, and in the early part of the 90's, tried to use trading standards officers to stop the import of Irish bottled water, unsuccessfully, but they did try and stop it... Labelling, they say. They cited labels as a lot of issues. What else did they cite? No, I think it was labelling, yeah, it was labelling that they cited as being not correct, which if you follow the*

letter of the directive, it was correct, but they had promulgated the Directive into U.K. law, and they had, it was unrecognisable, they changed everything on it, and it went to the High Court in the U.K., and the judge said, no the Directive supersedes anything that the British do, sorry. So, that was the end of that. **SO, Hydrogeologist**

Despite influences of various countries and interests, most regulatory actors believed that the goal of "universal" standards, of both EU Directives and Irish standards, is a beneficial policy to follow as it helps both business and consumers:

Yes, is the short answer. It makes it for a level playing pitch. You have similar standards, so yes. It means you can clearly sell your water anywhere in Europe, which has to be good for somebody. **SO, Hydrogeologist**

I suppose really what you're trying to do throughout Europe at this stage, you're really trying to harmonize the standards throughout the whole EU. But, I suppose at the end of the day, from my point of view, from a public health point of view, anything that's going to standardize it, and bring the levels up to the highest standard... It is a base that everybody can start from, and everybody, I know they're bringing in their own codes of practice, and this sort of stuff operation-wise, but at least if that's your bible, and every country bases their SI's or their regulations specifically on that, it, as I mentioned already, it harmonizes, standardizes controls throughout the EU, and that's not a bad thing as far as I'm concerned. **BD, Environmental Health Officer**

One public health representative linked Ireland's agreement to the adoption of universal standards in Europe as a key driver of progress in Ireland:

If you think about Ireland back in the 70's, compared to what it is now, standards have improved. I suppose, really, we're no longer a third world country when it comes down to it. And, if you went back to the late 60's, early 70's, from a

facility's point of view, and even transport point of view, that whole area, we were down the bottom of the league, and now we're more or less on top of the league. And, I suppose really, that's a result of joining the EEC when it comes down to it. **BD Environmental Health Officer**

The universal European standard was also seen as beneficial to a regulatory manager in one of the world's largest drinks companies, as these standards allow large franchises to adopt one set of standards with which to enter all markets:

I think it should be one rule fits all, because it gets complex when you have local laws, and you have to comply to European laws, and if Coca-Cola, if you're a bottler for a bigger franchise company, than you have Coca-Cola laws, so who do you comply with when you've got three different bodies that you have to keep happy? You sort of have to go sorting through all the regulations, see who's the most stringent, and then you have to write an internal document to make sure that, like say Coke was less than 10 and EU is less than 8, so you have to make sure that you're less than 8 to make both. It should be one regulation should fit all, rather than having to nitpick local, European, and then a franchise type of thing. **GS, Quality Supervisor**

There is an interesting ordering of "local", then "European" and then "franchise" hierarchy in terms of regulation, which highlights the size of multinational corporations within international regulation. Food and drinks producers are no longer limited to local economies, or even national economies. Instead, producers operate on an international scale that can exceed the scope of local and national jurisdictions. The development of universal standards allows multinational companies, as well as smaller companies, to manufacture products that can enter into the markets of many different countries.

7.5 Conclusion

Irish bottled water finds itself located within frameworks developed by national, European, and global regulatory bodies. "The configuration of facts-and-context has to be held stable" (Law and Mol, 2001: 611) within scientific practices, and this is done within each of the frameworks through the production of scientific definitions. These definitions are then maintained and reproduced by a variety of regulatory actors and organisations. The process demonstrates the influence of scientific "standpoints" and perspectives (Harding, 1986; Haraway, 1990; Keller, 1985), and reveals the contingent nature of regulatory documents and policies.

Marx argued that "science would be superfluous if the outward appearance and the essence of things directly coincided" (Marx 1993: 96). The appearance, or the scientific representation, of water within the bottled water industry is influenced by a variety of social conditions and structures which affect the scientific interpretation of water's "essence". It is therefore necessary to examine the scientific understanding of water through the language, contexts and communities that enforce the scientific perspective. Adorno (1990: 163) believed "the history locked in the object can only be delivered by a knowledge mindful of the historic positional value of the object in its relation to other objects". This chapter unlocked the historical and social influences on the scientific definitions of water utilized by the bottled water industry by examining their relations to other definitions and social structures.

The following chapter will examine the creation of the most influential industrial standard responsible for bottled water regulation in Ireland, and it will analyse how it applies and evaluates regulatory standards in Ireland. Similar to Callon's (1986: 203) example of the domestication of scallops in St Brieuc Bay, the development of the bottled water standard consisted of touching upon "elements, at least partially and locally, which are parts of both the social and natural worlds", which could not reduce the process "to a simple formulation". The next chapter will therefore provide an outline of the many different processes and actors involved within the creation of the National Standards Authority of Ireland's bottled water standard.

Chapter 8: Translating Irish Bottled Water Regulation

8.1 Introduction

This chapter approaches the scientific regulation of bottled water with a strategy that is much different from the previous chapter. The previous chapter revealed the contingent nature of scientific definitions and policies to demonstrate that scientific practices ignore many characteristics of water during the construction of a regulatory order. This chapter follows the development of the National Standard Authority of Ireland's bottled water standard (1992). This is the most important industrial standard in the Irish bottled water industry and the National Standards Authority (NSAI) is the agency responsible for certifying and auditing the natural mineral water status of bottled water companies in Ireland. The chapter will trace the development of the standard from its initial stages (alignment) to the enrollment of other actors and then to its ability to influence bottled water plants as an immutable mobile. It will therefore follow a path of translation in a manner similar to one used by Callon (1986), as proposed by Latour:

> To me the interesting task is not the policing, but following the translation. What I am now interested in is how many ways there are to translate. The delegation of action is not immediately knowable, but there must be ways of finding the regime of translation (Latour quoted in Crawford, 1993: 266).

This chapter is similar to Callon's (1986: 201) study, which he began at a 1972 conference when "scientists and the representatives of the fishing community were assembled in order to examine the possibility of increasing the production of scallops by controlling the cultivation of these crustaceans". This present study begins its analysis with the assembly of regulatory and industrial actors in Ireland in 1986 and it examines the "progressive development of new social relationships through the constitution of a 'scientific knowledge' that occurred" (ibid: 201) after these individuals were first assembled.

Callon (1986) studied a process that was initiated by three elements; the discovery by French scientists of a cultivation technique for scallops in Japan, the lack of information in the French scientific community on scallops, and the decreasing production levels of scallops in St. Brieuc Bay. The process studied in this chapter was influenced by the rapid development of the bottled water industry in Ireland, the lack of industrial and technical standards within the Irish industry, and the desire to add value to the Irish bottled water industry through regulatory certification. The following sections will explore these motivations and actors and will examine the creation of the NSAI Standard and its influence on the Irish bottled water industry.

8.2 Problematization and Alignment

8.2.1 Introduction

The NSAI first produced a standard for the Irish bottled water industry, titled "I.S. 432: 1992 Bottled Water", in 1992[1]. The development of the first standard is explained by a hydrogeologist who was one of its contributing authors:

> The Irish Bottled Water Standard, I.S. 432 is voluntary and was developed to ensure safety of both the raw water and the finished product. The emphasis is on prevention rather than detection. The standard applies to all packaged water regardless as to whether they are Natural Mineral Water, other bottled waters or water coolers. The Standard provides similar controls for all bottled waters to engender consumer confidence in the products. The standard has about 70 specifications and over 100 recommendations (Shane O'Neill quoted in LaMoreaux and Tanner, 2001: 9).

[1] The standard has since been amended. According to the FSAI, "it has now been revised so as to take into account the experience gained in the bottling of water over the last number of years and to reflect the changes in legislation which have occurred. These changes include the European Communities (Hygiene of Foodstuffs) Regulations, 1998, and include the Directive 96/70/EC. This Directive was enacted into Irish Legislation, by the Irish Statutory Instrument – S.I. No. 461 of 1998 titled European Communities (Natural Mineral Waters) (Amendment) Regulation, 1998". (NSAI, 2001: iii). The standard has since been updated and is currently titled, "Standard IS 432:2005, Packaged Water" (FSAI, 2007).

The NSAI proved to be an essential actor within the regulation of Irish bottled water and the next section will provide an explanation of the authority's creation, function and association with other regulatory bodies.

8.2.2 National Standards Authority of Ireland

The National Standards Authority of Ireland was established through the National Standards Authority of Ireland Act of 1996 (No. 28/1996). The Act set out the function of the NSAI, which is explained by a member of the authority:

> *Our function is to develop standards, to decide what goes into them, and arrange for them to be published as Irish standards and other standards that don't have the official designation of an Irish standard. An Irish standard is defined within the NSAI Act, Parliamentary Act, and so it has a very specific definition, and in a nutshell, it's a standard which has state approval, if you'd like to put it that way. That's different from a lot of countries, probably because we have not been an industrialised country. So, we publish what are called Irish Standards, and we publish some other standards, which would be adoptions of European Standards, or adoptions of international standards like ISO* (International Standards Organisation), *or IEC* (International Electrical Technical Commission). **BC, NSAI Head of Standards Development Department**

Due to Ireland's historically small manufacturing sector, the Irish government created the NSAI in order to establish an agency that can provide scientific approval of industrial practices. Trade with other countries and the establishment of scientifically approved regulations within Irish industry are major reasons behind the establishment of the NSAI:

> *The NSAI comes under the Department of Enterprise, Trade and Employment. The function of standards as we see it is to facilitate trade, therefore, the Department of Trade. And, they're often looked upon as engineering standards, but the real purpose is to facilitate trade, so that people can say,*

well I want a certain product, a black box, but I don't know what's going to be in this, but it must perform according to such and such a standard, then people have a basis for trade, you know. So, the purpose is trade. **BC, NSAI Head of Standards Development Department**

The NSAI facilitates a system of trade that incorporates mass production and trade over large distances and also seeks to implement standard guidelines within Irish industry. The Authority is therefore directly related to economic activity and the management of the NSAI is run, from the start to the finish of a project, by the Department of Enterprise, Trade and Employment:

We're owned by the Department of Enterprise, Trade and Employment, so they're on our board. They have a representative on our board, and they're monitoring us all the time, and as I say, they approve our projects, to start with, and to... They approve our start, commencing a project, and they approve the final document. So, we can't actually publish without their approval. So to that extent, we are monitored. There is the Director of Consumer Affairs who doesn't monitor us as such, but plays a complimentary role in the regulation of the market to, that is to say, she should have a lot of inspectors checking that goods do comply with what they have to comply with, you know. **BC, NSAI Head of Standards Development Department**

The NSAI is not only bound to the Department of Enterprise, Trade and Employment but it is also located within a larger international network of regulatory bodies and agencies. European countries agree to regulation at a European level, but national regulatory agencies are also part of the Committee of European Normalisation and other regulatory bodies. One member of the NSAI describes the variety of regulatory networks with which the NSAI would be associated:

We are a national standards body, and as such, we're a member, and therefore a partner, or shareholder, or whatever you want to call it of CEN, the European Standards body, and, likewise, we're shareholder member of ISO, the International Standards Organisation. There are also corresponding bodies in the electrical field, which would be CEN ELEC [CENELEC], *and*

IEC, the International Electrical Technical Commission. There are similar bodies in the telecommunications field, ETCE [ETSI], *the European one. ITU, the International Telecommunications Union, or something like that, on the international level. So, we have a very clear and distinct relationship with them in what we do with their standards and what we can do, and basically the deal with the European bodies is that we adopt their standards. So, any full standard that CEN produces, or that CEN ELEC produces, we adopt as an Irish standard, and that's the deal with the twenty-five countries of the EU, plus the three of EFTA, twenty-eight countries anyway altogether would adopt every single standard produced by CEN. But then, CEN is us. You know, so we are 1/28th of CEN, so we're involved in the producing of the standard. ISO, we don't have the same strict agreement, but CEN often adopts an ISO standard, and then we adopt the CEN standard. So, many ISO standards end up being Irish adoptions.* **BC, NSAI Head of Standards Development Department**

Again, due to the lack a large manufacturing sector in Ireland, the vast majority of Irish standards are actually European standards that have been adopted by Irish regulatory agencies.

Irish standards, because we now have a body of European standards, we have about 17,000 standards in our catalogue, and 200 of them, about 300, maybe, are national Irish standards. So, the numbers of Irish standards have been overwhelmed by the numbers of European standards. Aided by the fact, well we're a small country so we had a small number in the first place, but also under the rules, if a European standard is developed on the topic where we have a standard already, we withdraw our standard. So, this is part of the harmonisation process, and the new approach that I mentioned earlier. **BC, NSAI Head of Standards Development Department**

The production of regulatory standards by the NSAI is therefore done within a very specific context and through structured organisation. It was established to facilitate trade and the philosophy of free trade although, as will be discussed later on in the chapter, there are still elements of protectionism that drive the NSAI:

NSAI is only here to serve Ireland, so we wouldn't really be, supposed to think, in terms of what's beneficial for NSAI. But, it's beneficial for Ireland, in that we've acquired a large body of trade stroke industrial stroke other standards, that probably on our own we would never have had the resources to develop, and we think these things facilitate an open economy, which is what we've been trying, the government has been trying to develop here for the last couple of decades. So I think it's beneficial. **BC, NSAI Head of Standards Development Department**

Irish industry will approach the NSAI in order to establish a certification procedure within its industry as an attempt to enforce a quality standard within its area. This has been done in order to gain access to foreign markets, but also to govern the domestic market:

Since 1986 and the new approach in the EU, we've turned that (protectionism) *round completely, and we're now using standards to facilitate an open market, as I kind of explained earlier. So, industry would come to us, where it saw it was going to be disadvantaged perhaps, or where it did see an advantage. Or, another frequent source is where an industry, as distinct from a company, would come to us to try and get us to help them lay down standards for the performance of the activities of that industry, because it feels it needs regulation. Maybe there's cowboy companies set up.* **BC, NSAI Head of Standards Development Department**

The National Standards Authority of Ireland makes use of many "stakeholders" in creating their standards. This process differs from traditional forms of regulation, which would not involve as many members of industry. The stakeholders that contribute to the process might come from areas outside of industry, but all participants work towards the goal of producing an industrial standard that will facilitate trade. A diverse group of "experts" can be brought together, but the diverse views are asked to produce universal rules for the already agreed upon objective set out by industrial concerns:

One of the differences between standards and regulation is that regulation tends to be drawn up by specific experts employed by the government within their government departments and imposed. Our standards are voluntary but they're, we don't have in-house experts on every topic, but we gather the experts. So we would, our standards would be drawn up on the principle of consensus. So, it would be an agreed document and we'd usually gather together a committee to do this, and the committee, we would try to populate with a representation from all relevant sectors. So, industry would be present, perhaps safety interests, perhaps consumer interests, and sometimes we function as the consumer interest because it's hard to get consumer interests onto, involved into the development of standards and that's a big issue that's going on, being discussed at the moment in Europe. **BC, NSAI Head of Standards Development Department**

The NSAI therefore combines industrial and regulatory interests. The difficulty with this approach is evident when industry does not want to pay for added regulations, procedures, etc., due to the added costs that such changes would require:

Theoretically the work should revolve around scientific facts, technical, well-established technical principles. Sometimes commercial interests come into it, and it's then the job of the committee and the chairman to try to reach accommodation. **BC, NSAI Head of Standards Development Department**

The standards created by the NSAI are considered to be "mostly" voluntary. At times however, as one respondent explains, the standard becomes more compulsory:

We use the word voluntary, but often there is an element of compulsion once a standard exists and this is often the reason given for people who resist the initiation of a standard's project, because they know that the mere fact of its existence will lend an element of compulsion to it. **BC, NSAI Head of Standards Development Department**

Companies can read a standard for their industry and decide to manufacture their product or provide their service within the terms of the standard. They therefore do

not have to be certified by the NSAI and can instead elect to just follow the suggestions made by the standard. This is different from making a declaration that states that the company is certified by the NSAI:

> *So, a company may manufacture according to a standard, and that's the end of it. They just decide they're going to manufacture according to a standard. A company may go further, and say, well there's commercial advantage to us, if we get a logo or a mark from NSAI saying, or another rival body, certifying, this is where the word certify comes in, certifying that this product complies with it. So, in that case, the company has decided to get, for its own reasons, to get a third party certification that their product does comply with a standard. So, that's, that's where that arises,* ***and it's an absolutely commercial thing, and it comes down to a marketing decision of the company whether to pay a third party to confirm that the product is designed or built according to a certain standard, and have that third party's logo on their product.*** **BC, NSAI Head of Standards Development Department**

The NSAI is able to create and certify voluntary standards, as other regulatory agencies in Ireland are responsible for compulsory regulations:

> *Now, standards, per se, are documents with which compliancy is voluntary, and that's important. Now there is also a Food Standards Act, which is a different Act, which the NSAI do not operate. This gives the right of the Department, mainly of Agriculture, or indeed the other crowd, the Food Safety Authority, to actually impose a standard, or a specification, on a product, or process. So, that is available on a legal side, but on the voluntary standards, these were more trading standards, for the bottled water.* **MO, NSAI Representative**

After a standard is created, the content of the standard can be changed for a number of reasons. A scientist, consumer group or any member of the public can present an objection or correction to a standard to the NSAI:

If anybody, doesn't matter who they were, if somebody pointed out a defect in our standard, we would either put it before the committee, where a committee exists, to consider how real it is. Or, we might have to set up a little group if we didn't have a committee in existence already, try and get a few expert views on the thing. The consumers are organised in Europe, and we often get submissions from them when we're voting on a European standard, and mainly, rather than a national standard here. So, if defects in the standard were identified to us, it would be irrelevant where they came from. We wouldn't want a defect in our standard. So, we'd examine the submission.

BC, NSAI Head of Standards Development Department

The National Standards Authority of Ireland was in a key position to produce an industrial standard for the Irish bottled water industry, as it had the ability to recruit experts to contribute to an internationally recognised industrial standard. The voluntary acceptance of an NSAI standard along with the participation of industrial interests made the NSAI a useful ally for bottled water companies in the development of Irish bottled water regulation. The following section will explain how the creation of the standard was initiated.

8.2.3 Motives Behind the Standard's Creation

Similar to Callon's study at St. Brieuc Bay (1986), there were several key elements that initiated the development of the NSAI Bottled Water Standard. Ballygowan, the market leader, initiated the process and one of the main drivers behind its creation was the protection of the Irish bottled water market. This was explained by the main NSAI representative involved in the standard's creation, who felt that start-up companies might not know what they were doing, which might lead to a negative perception of other companies in the Irish market. Ballygowan contacted the NSAI to discuss the possibility of developing a bottled water standard:

In essence, the background was that we got a letter in the NSAI from Ballygowan, and the reason we got the letter was basically they wanted the standard. What their concern was, as a company obviously, was that they had

invested a lot of money in their product, and in the marketing, and they were concerned basically that other people were entering the market, and that they might not have the same quality of water, and they could damage the marketplace. Now, that was the logic. Standards are produced at the request of the Minister theoretically, but in fact the standard, in general, what happens, in reality is, that there's a need perceived by the standards body, or by industry, and we make a recommendation to the Department, and generally speaking that recommendation is taken. **MO, NSAI Representative**

The contamination of Perrier's water source in 1990[2] and the increased value of the Irish bottled water industry were also identified as key reasons for the development of the standard:

So, then what happened was, there was the failure in Perrier water, and that occurred, and suddenly, people began to realize that there was a risk. Now, I had argued in writing to them [Department of Enterprise, Trade and Employment] *that, look, the industry was nearly at that time worth as much as the Irish Cream Liqueur industry, and as a result it was a very important industry, and you know, it was to be protected.* **MO, NSAI Representative**

Added to the protection of the industry and the attempt to control risk, a hydrogeologist involved in writing the standard stated that it was also written to transform Irish water into a premium brand:

It was purely trying to make Irish water a premium brand. Ballygowan still markets itself as a premium brand. So, this was an effort to improve the industry image. The downside of it was, it was going to cost money, because instead of just drilling a well, throwing a pump into it and pumping it, and

[2] The Perrier recall in 1990 was initiated by the discovery of benzene in bottles of Perrier water by a group of laboratory workers in North Carolina. The company was a market leader in 1989 and the worldwide product recall damaged the brand reputation and the company's market position. The company also provided a range of reasons for the presence of Benzene in their water, which caused further mistrust amongst consumers. The handling of the situation is now considered, amongst other things, to be a major management mistake, (Economist 1991) and it is commonly believed that the company will never be able to fully recover from the incident. For an overview of the recall and the company's responses, see Greyser and Klein: 1990.

hoping to God it worked, you now had all these steps and this data to collect, and all these different things to do, before you finally got to pumping your well, and that obviously had a cost implication. **SO, Hydrogeologist**

The standard was not developed to transform all waters sourced in Ireland into premium brands. It provided a universal standard, but only for those waters that could be defined as "natural mineral waters" and only for those companies that could afford the accreditation. The NSAI standard was therefore able to differentiate between the various bottled waters that were available in the market and was able to justify the higher prices that were being charged by the premium bottled waters:

I think it levelled the pitch a bit more as well, so that everybody was trying to achieve the same standard, because at that stage, because this was back in 1991, 92, there was waters out there that were, I won't say they were literally tap water, but they weren't far off it, at one end, at the very low end, and then there was Ballygowan and Tipperary at the other end, who are really high quality waters, and they were trying to compete on price. It wasn't doing anybody any good. **SO, Hydrogeologist**

In Callon's example, (1986: 203), one key question[3] was "enough to involve a whole series of actors by establishing their identities and the links between them". The authors of the NSAI standard were also attempting to answer a single question, which was based around the interpretation of the Natural Mineral Water Directive and its applicability within an Irish context:

You see this wasn't food regulation, because there was also, sorry, there was a Natural Mineral Water Directive had been in, and this is part of it. ***But, the problem was how did you interpret that?*** *Like, they say geological survey has to be done, but that's all it says. Not what is a geological survey? Now this is where the ERA Resources* [geological consultancy firm], *or whatever, came in and said that look, you have to define the catchment area, and in other words, any area within a year, and then the effect on your well after rainfall, and all*

[3] Does Pecten maximus anchor? (Callon, 1986: 203)

this. Now this would not be in the legislation, because that detail isn't in it. So, really what the logic behind it was to put this detail into it. **MO, NSAI Representative**

The development of an Irish interpretation was necessary due to the nature of European regulation. In 1985, it was decided that "the EC [European Communities] would provide only general standards, relying on member states to fill in the detailed specifications, and requiring members to recognize the specifications of other states as long as the general standard was met (Treveline 1993 quoted in Braithwaite and Drahos, 2000: 402). Ballygowan and the NSAI agreed to develop a specific industrial standard in Ireland that provided a practical and theoretical interpretation of the general regulatory guidelines that had been provided by the European Directive on bottled water.

The development of the bottled water standard occurred when the Irish food industry was just beginning to develop more industry standards. The NSAI acted on behalf of the government and the consumer during the drafting of the standard and also drew in several interests related to the bottled water industry in order to create the standard. After it was decided to attempt to create a bottled water standard, the NSAI organized a group of individuals from different professional backgrounds and each of these actors were selected based upon their ability to provide specific insights from their respective field. For example, a hydrogeologist was selected due to experience in his field and therefore his ability to contribute had been determined by the NSAI prior to the meetings that produced the standard. This selection and definition of actors by the NSAI formed what Callon (1986: 202) has called an obligatory passage point, where actors became integral parts of the network of relationships that worked towards the creation of the Bottled Water Standard. The "obligatory passage point" formed by the NSAI include the meetings called to develop the bottled water standard and the various individuals and associations that were contacted to provide relevant contributions to the meeting.

8.3. Interessement

The negotiations surrounding the development of the bottled water standard required a variety of actors to define the type of water that would be utilised by the Irish bottled water industry and to explain the process in which water would be sourced. This was then followed by deciding on how these definitions would be certified and audited. A major "device" used within these negotiations was previous methods of regulation, as well as other regulatory agencies within Ireland. This stage within the development of the bottled water standard can be understood as what Callon (1986: 204) defined as "interessement", which is "the group of actions by which an entity attempts to impose and stabilize the identity of the other actors it defines through its problematization".

While Callon (1986: 205) believes that "the range of possible strategies and mechanisms that are adopted" during interessement is unlimited, the circumstances involved with the Irish bottled water standard were in fact already limited. Preceding the regulation of the Irish bottled water industry, the public water supply in Ireland had already been regulated by Irish and European legislation. This body of knowledge formed the basis for the regulation of Irish bottled water. Furthermore, the standard was created due to economic concerns of the Irish bottled water industry.

Regulatory practices were explained by an EPA official responsible for the publication of the safety of Irish tap water as being covered in the Drinking Water Regulations Act of 2000 (DM EPA). The Act states that there are 34 city and county councils that are responsible for the provision of drinking water to the Irish public. Councils must supervise the quality of their water supplies and submit these measurements to the EPA. The EPA (2008) then publishes the findings of these tests in an annual report. Related to this responsibility, the Environmental Protection Agency also permits departures from standards if it is deemed acceptable and approves the independent laboratories used for the regulation of water supplies. Within this structure, however, an EPA official concluded:

But there's no true enforcement agency in Ireland in relation to drinking water supplied by public water supplies. If a local authority produces poor quality water, there's no enforcement action that any agency in Ireland can take against local authority. **DP, EPA Official**

This claim is interesting for several reasons, as it seems to fall under Beck's (1995; 1999) definition of "organised irresponsibility". The Irish government is responsible for supplying its citizens with quality drinking water, yet it currently does not have an agency that is responsible for the enforcement of the quality of the water it supplies. Instead, the Irish public has had to rely upon the governance of the European Union. The influence of the EU on water regulation in Ireland was described by the EPA official in the following way:

It [European Union] *would have a massive influence. All of our regulations in terms of drinking water, the quality standards, are all based on European Directives, so they have a massive influence. And the recent investment programme that's taking place in the smaller supplies* [Water Framework Directive] *is being driven by a European court judgement against Ireland. So, I would say it would be one of the primary influences on the way things are run in Ireland.* **DP, EPA Official**

Irish tap water, like Irish bottled water, is under the regulation and governance of European Directives. There are some differences, as each type of water is used towards different ends:

Bottled water, as in non-mineral water, is also covered by the same European Directive that covers tap water. So the regulations in that sense would be fairly similar. I know the regulations in terms of mineral water, natural mineral waters, they do have very strict criteria in terms of things like source protection, which those regulations aren't there for, for tap water, because the tap water is treated and the mineral water can't be treated, it has to be natural raw water. So, I suppose there is a bit of a difference, but I suppose it's

because there's, you know, you have a different product, in terms of, a different end product. **DP, EPA Official**

While they might be applied in different ways and for different circumstances, European Directives are the reference points for both bottled and tap water in Ireland. This forms an interesting structure of regulation in both the private bottled water industry and the public tap water system, as regulation is created at the European level in each sector. The European Directives form the basis of regulatory networks in Ireland and other European countries and this applies to both public and private water supplies.

Defining water through scientific language had already been established in Ireland and elsewhere. The goal of the NSAI committee responsible for drafting the Bottled Water Standard was to produce an identity of bottled water that would scientifically differentiate it from the identity associated with public tap water. An "alliance" was forged around this goal, which provided an interpretation of what actors would be involved in the creation of the bottled water standard, as well as defining what social and natural entities would be enrolled during its creation (Callon: 1986).

8.4 Enrollment

Following the NSAI's decision to develop an industrial standard for the Irish bottled water industry, it next moved to construct various alliances to contribute to the content of the standard. This stage, defined as "enrollment", involves a "group of multilateral negotiations, trials of strength and tricks that accompany the interessements and enable them to succeed" (Callon, 1986: 206). The negotiations within the NSAI next moved to invite several actors to contribute to the bottled water standard. Representatives from industrials associations like the Soft Drinks Association and the Beverage Council of Ireland; bottled water companies such as Ballygowan, Kerry Spring, Tipperary Natural Mineral Water, and Glenpatrick; and regulatory organisations such as the FSAI, Department of Health, and the NSAI were involved in the creation of the standard (MO NSAI Representative).

The enrollment of actors during the creation of the Irish bottled water standard involved various incentives and persuasions for different actors. The NSAI selected members of the industry to participate in the drafting of the standard because it was set up as a voluntary standard. To ensure the standard was not only the result of industry, government and other organisations were asked to contribute their views. The auditor of the NSAI standard would also have input into the creation of the bottled water standard. If there were issues that would be hard to enforce, or if the standard did not set out conditions in a clear way, the auditor would raise objections:

> *We would make sure that the requirements that we feel should be in there are in there, or if there was something going into the standard that we feel would have difficulty policing out, we would bring it to the attention, of if we felt something was proposed to be monitored, maybe quarterly or monthly, we feel it should be monitored at least daily, we would have an input at that stage.* **DM, NSAI Certification Inspection Officer**

The Irish bottled water market consisted of a handful of large companies that dominated the market but also had a large number of smaller companies within the market. Near the time of the creation of the bottled water standard, there were approximately 45 companies in the Irish market, with four companies, Ballygowan, Kerry Spring, Deep RiverRock and Tipperary, and they commanded over 80% of the market (Shane O'Neil in La Moreaux and Tanner, 2001: 9). The large companies in the Irish bottled water market had the biggest say from the industrial part of the committee:

> *In general, the majors had the greatest input into the standard, but, you know because they had the greatest knowledge, and there's no doubt about that, and they had the greatest input, but having said that, the minor companies had to consent to it, because we work on a system of consensus. Now, by that, we mean it's not, consensus doesn't mean absolute agreement, but it does mean that you must attempt to address everybody's problems. And, at the end of the day, we had total consensus on the document.* **MO, NSAI Representative**

Certain concessions were made towards the smaller companies within the Irish bottled water market and this can be seen in the guidelines for the frequency of testing:

> *With regard to the smaller companies, we took an issue that in other words, and this is one of the things we were looking at, that the frequency was related to the risk. So, if you're producing, we'll say 100,000 bottles a day, that's 100,000 people that are drinking your product every day. But if you're only doing 10,000 a day, then you're only putting 10,000 people at risk. So, obviously the other guys need to test ten times as much as the smaller company. So, there is a relativity here, instead of using absolutes, so that is how we got around things like that. You know there was a logic to it, in the sense that if you go to some of the water directive, with regard to drinking water, there is a difference in frequency depending on the number of people.*
> **MO, NSAI Representative**

During the process of consensus building around the bottled water standard, large and small companies, along with the other members of the consultation process, had to determine how the question of applying the European Directive to the Irish bottled water industry would be answered and also had to "recognize their alliance around this question can benefit each of them" (Callon, 1986: 204). Both large and small companies wanted to produce a standard that would improve the value of Irish bottled water by creating a set of regulatory standards that would be applied to the industry. This would allow both large and small bottled water companies to sell their product to retail chains and to foreign markets. Ultimately, without consensus of the contributors, the standard would not have been produced. One unifying factor was the desire to protect the market and to benefit Irish companies in the market:

> *And, the other thing with the NSAI, I don't know if an NSAI representative would ever admit to it, but by having a standard, it was essentially being anti-competitive. It's trying to make Irish water better than anybody else's water, so that the French water or the English water coming into the country, people might prefer Irish water with a special Irish standard. So, there was a bit of that going on as well. And, I remember one instance that he insisted on having the parameters listed in a certain order on the bottle, on the label, and*

I remember him taking Buxton, I think it was Buxton water, and he was looking at their labels, and he said, right, they've got Calcium first, right we're definitely going to put Sulphate first ... And all of the Irish producers were saying, yeah, oh definitely, anything to keep the competition out. **SO, Hydrogeologist**

A hydrogeologist thought the standard was developed using a fair mixture of industry and regulatory concerns. The initial stages demonstrate that various actors had different expectations of the standard and therefore had different views of regulation, demonstrating that "the movements and detours that must be accepted as well as the alliances that must be forged" during the process of problematization (Callon, 1986: 204):

I was coming at it from a very prescriptive approach, that you shall do this, and shall do the other, and this is the textbook way to develop a bottled water source, and that's unrealistic. And, the NSAI had to try to balance the ideal with the practical, and yet, have it at a certain standard, that would actually lift the whole industry. So, it was a process of NSAI toning down what I was writing, and then trying to encourage the producers, because there was must have been seven or eight of us, of bottled water producers, on the committee, to try and accept the standards that I was putting forward. It was a good, the fellow, Manus O'Brolchain, his name is on that standard, was a very good civil servant in that sense. He had a good grasp of the technical, and he also had a good understanding of where the producers were coming from, and it was a good exercise for me. I had never had that sort of experience. **SO, Hydrogeologist**

Differences existed between large and small companies, between industry and regulators and also between the geological characteristics of aquifers. The bottled water standard took into account the differences that existed between the water sources of different companies and made accommodations for these differences. It used individuals that were knowledgeable of geology to provide views on the various "identities" of rock formations that required specific well designs to be implemented:

There were geological differences between the sources, which had to be taken into account ... There was the opportunity there that where boreholes existed, or where it was deemed necessary to have boreholes to check the source or whatever, if it was there, if there could have been an affective rainfall event for example, you would actually specify. So what we did was, with the five, there were about seven different people around the table who had knowledge of that area, and then I also had the advice of the Geological Survey of Ireland, and there was a guy who I went down to, to quite frequently to check up with him, because he was a geological expert, and he was talking, like say if you have a well, an artesian well for example, and now there are a few in the country, but nobody's ever tapped them, but they're very clean water, and they're excellent water. So, there would be an area like that. But we didn't allow anyone off the hook if there was a risk. **MO, NSAI Representative**

The negotiations around the standard were similar to the creation of other NSAI standards, as it was formed through consensus and it required a non-industry agency to counter commercial interests. The obligatory passage point within the network was the NSAI's willingness to develop the standard, but this could have been abandoned if it was felt that the standard was not of a satisfactory quality:

But, our bottom line, as the NSAI, or certainly my bottom line was very simple, I wasn't going to write the document, that at the end of the day, that was flawed, and I was quite happy to scrap the whole project if, you know, because there were times were one had to, there was once or twice when one had to say that, look, the situation is, this is a risk, we must address it, and there's no point having a document unless we address this risk. **MO, NSAI Representative**

Latour (1986: 267) observes that "the spread in time or space of anything – claims, artifacts, goods – in the hands of people" can lead to "modifications, deflections, betrayals, additions and appropriations". During the development of the NSAI bottled water standard, previously produced bottled water regulation was modified and utilized in different ways. For example, when considering the types of testing that

were required under the bottled water standard, the committee reviewed the types of testing that took place in other countries:

> *With regard to the level of testing, we in fact, there was an argument here which the Germans, the Germans tested for every bloody thing under the sun. What we decided on in the end was to find out what was happening in the catchment area, or the greater area, there's a greater area outside the catchment area, I can't remember what it's called, but to decide what activities are taking place, and what are the possible contaminants from those activities, and then you would look for those contaminants. That's how we dealt with that kind of thing, rather than giving a list of 150,000 things to look for.* **MO, NSAI Representative**

The NSAI made use of information from other countries outside of the European Union, particularly the United States, which had already established water regulations:

> *When we were doing this document, in fairness we had available to us, we had all the, the Americans had done a lot of work on protection, because a lot of their drinking water in the States would be groundwater, whereas in this country, it tends to be lake water, it tends to be surface water. So, we're probably better on surface water treatment and this sort of thing, whereas they know about groundwater, and the effect of nitrates and things. So, in a lot of states in the U.S., they actually will tell you when you can put nitrates on land, etc., etc., etc., and how much you can put on. So, this is all part of the protection. So, there were a lot of documents available which we used.* **MO, NSAI Representative**

Throughout the creation of the standard, it was evident that "a system of alliances, or associations, between entities" developed, which defined their identity and their goals (Callon, 1986: 204). The entities involved in the creation of the bottled water standard included the NSAI, Irish bottled water companies, aquifers, water, bottled water plants and regulatory consultants.

8.5 Mobilization

Following the agreement upon the Bottled Water standard, "a constraining network of relationships" was built, which then tightly limited "the margins of maneuver of each entity" associated with the standard (Callon, 1986: 211). The published standard was able to act as a spokesman for a variety of actors and entities, each sharing a generally agreed goal of regulating the Irish bottled water industry. The standard became the guarantor or referent for the different actors involved in its creation:

> The guarantor (or the referent) exists once the long chain of representatives has been put into place. It constitutes a result and not a starting point. Its consistency is strictly measured by the solidity of the equivalences that have been put into place and the fidelity of a few rare and dispersed intermediaries who negotiate their representivity and their identity. (Callon, 1986: 211)

The bottled water standard is similar to other NSAI standards in that the "consensus and the alliances which it implies can be contested at any moment" (Callon, 1986: 211). This has happened since the drafting of the first standard, as the content has been modified during various revisions. For example, after writing the bottled water standard, the NSAI then revised the text to include the HACCP guidelines:

> *So, that's the history, we then upgraded it to take account of the Hazard Analysis, but that was only really more cosmetic, and then we tried to do it, and it never really quite happened, but I was basically on sick leave, and was about to retire or whatever, but what we wanted was to have developed with the Food Safety Authority, a list of documents, and I don't think they've ever done it, I wanted to get a list of documents with products, where you would identify what were the critical control points for the process.* **MO, NSAI Representative**

One of the reasons the bottled water standard has been amended twice since its creation was due to developments in other food regulation. As was stated earlier, the

HACCP management system was put into place by the FSAI and incorporated in the bottled water standard:

> *The most recent standard has brought it up to date with current legislative requirements that there's now a more positive food safety HACCP, food safety management system element in it, in that HACCP is more to the fore in it, now it was in it in the past as well, but it's just brought it more control, it has brought it more up to date with the legislative changes. The department, or the Food Safety Authority of Ireland brought out their new statutory instrument covering the Potable Water Directive. The original Potable Water Directive was amended, and following that amendment, the Food Safety Authority of Ireland brought out the statutory instrument and the potable water directive, it calls, there are actually 2 directives to do with packaged water, one is the Natural Mineral Water Directive which in turn was amended and then you had the Potable Water Directive which in turn was amended as well ... And following both of those amendments, then the Food Safety Authority of Ireland, they brought out their statutory instrument, which was statutory instrument number 79 in 2005, and the requirements of that then was brought into the other standard, IS: 432, so IS: 432 was amended. The original IS: 432 was 1992, it was revised again in 2001, and then it was revised again in 2005.* **DM, NSAI Certification Inspection Officer**

8.6 Regulation at a Distance: The Standard as Immutable Mobile

8.6.1 Introduction

Upon the completion of the bottled water standard, it was then able to act as what Latour (1987) would define as an "immutable mobile", providing the opportunity for "action at a distance". The network assembled during the creation of the bottled water standard is further maintained through the application of the standard to industrial practices in bottled water companies around Ireland. The bottled water

standard does not act just as a series of rules for bottled water companies to follow; it also acts as a code of practice. The standard can be used by bottled water companies as a guide in setting up efficient safety and health practices.

8.6.2 Standard's Use Within Industrial Practices

Many respondents identified the NSAI Standard as the central document that influences the design and practices of a bottled water plant. Several defined it as "the Bible"[4] and they viewed the document as both an industry standard by which to be measured and also a code of practice to assist in the regulation of production practices. The production process is understood by many as a collection of smaller activities and each of these tasks were designed to continually meet standards that had been designed by regulators:

> *Like everything we do here is meeting standards. Before we even actually release product, all our product is released based on microbiological, achieving the standards, the microbiological standards that are laid down for water. So, therefore everything here is driven by standards, whether they're the 432 standards, whether they're the IS, I think 73 is the new Irish directive. All the standards, and then, I suppose from a process perspective then, to manage all that, we're under ISO 9001: 2000, and we have 14001: 1996. So, we have all the standards. We meet those. We're audited to them. So, the plant is driven by standards.* **PM, Quality Assurance Manager**

Standards were viewed by some as working to guide the processes of production. They were accepted not as an annoyance or as a limitation, but as prescriptive advice to produce a hygienic product and as a way to limit the threat of contamination:

> *See, what you need is guides. You need something to work with, or to work to, and I think that's one thing about standards is that they give you the guides to help you to get there.* **PM, Quality Assurance Manager**

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[4] This is an interesting comparison for many reasons. One of which is the idea that a scientific text or artefact contains moral codes (Latour, 1992).

Of all the various standards and directives that define what can and should take place in bottled water plants, the NSAI Bottled Water Standard was acknowledged as being the most influential in the daily running of a plant:

> *The standard is the bible to which we work. If, and we welcome the standard, because the standard, by adhering to the standard, and using the standard properly, it ensures that we have good product out in trade.* **DS, Production Manager**

> *As a code of practice for the bottled water industry in its totality, the NSAI have published IS: 432, which lays down a code of practice for the bottled water industry, whether that's selling it as natural mineral water, or spring water, or just as bottled, and it covers things such as what are the requirements for HACCP, what are the requirements for drilling wells, and drilling observations bore wells, what pumping tests you have to carry out, what protection measures you have to put in place around the bore well itself and around the general aquifer, so that there will be no pollution, what monitoring you have to carry out, the daily, weekly, and annual monitoring that has to be carried, what packaging material could be used, what material can be used in transporting the water from the well into the production facility, the type of stainless steel, the type of packaging material, and things like that. It will give you guidance on cleaning the filling equipment, cleaning the pipework, cleaning the wells, and it will give you a specification that the water has to meet in order for it to be bottled safely.* **DM, NSAI Certification Inspection Officer**

The bottled water standard provides guidelines for best practice, as well as instructing companies on the collection of information to provide a reliable set of procedures that test the quality and supply of the water. A hydrogeologist explains why the standard is beneficial for a company's maintenance of their aquifer:

> *The other good thing about the bottled water standard is, it gives the management an awful lot of information about managing their source, and I*

always distinguish between collecting information for management purposes, and collecting information for regulatory purposes. The regulatory requirements are a subset of the management requirements, and I know that certain of the bottled water companies would monitor chemical and microbiological data to a much greater extent than they are required to by the regulations, and yet they'd still only submit the bare minimum to meet the regulations. **SO, Hydrogeologist**

The NSAI bottled water standard provides companies with a universal way of producing information throughout the production process, which includes both the sourcing and packaging of water. It also acts to prevent products that haven't been tested from leaving the plant to go to the marketplace:

Same regulatory standards all the way. It's as simple as that. We check product every hour. Everything is documented. Anything in and out the door, from the minute a bottle cap [comes in], *anything like that, it's logged in. Traceability, basically, is there from the word go. We know what product we're on every hour. We know the pallets the bottles come off of. We know the caps. We know the time they came in. We'll know the code, they're all coded obviously, as per usual. We'll know the pack, they're all recorded down at the end in the pallet numbers. Whether we're running one hour or twenty four hours, it doesn't matter. The regulations are there. They're in place. Obviously all the product is held for the specified time after, the 24 hours or three days, depending on what we're doing.* **ML, Plant Manager**

The NSAI Standard gives regulation employees in bottled water plants a set of testing procedures to follow on a daily and more long-term basis. These procedures are used for quality assurance and production reviews. A regulatory supervisor explains this process:

The standard would dictate a sample plan, in reference to what you should be taking, in reference to microbiological checks. You gotta look at in two ways. You got to look at the well, and that your well on a daily basis meets the requirements. So, from a quality perspective, we test on two parts. We test

from a well perspective, which is our well field checks, which is microbiological and chemical, for all wells used on a production day. And then we also check from a production, or from a process point of view. So in the lab, I would have, we'll say, if you want to call them two teams of people. One, which is keeping an eye on the day-to-day well field activities, and another which is keeping an eye on the process. In the process then we would have a sampling plan, which in fact is actually greater than what is recommended. And it's as much, from our perspective, it gives us a better picture of process on a daily basis. So we would test our product on a daily basis every two hours. I would take microbiological samples. We also do, what we call online checking, which is not really directly product, but it's checking that the quality of the lines, and the water in the line, before it even hits the bottle, meets the standards. **PM, Quality Assurance Manager**

8.6.3 Commercial Influence of NSAI Standard

The bottled water standard not only influences the actions of workers within a bottled water plant, it also influences the business activities of Irish bottled water companies. From one company's perspective, the NSAI standard acts as a way of leveraging the big companies over the smaller ones in the market. One plant manager believes that the standard can be used to protect big business:

I wouldn't be very well up on it now Sean, but to the best of my knowledge, the status of the water business, I think it's only ourselves, Ballygowan, and Tipperary, that we're trying to pull together to get these three companies at a higher level than the rest of them, because we're keeping tests that we'll stand over, that would go with Tipperary, Ballygowan, the big ones, which is back to what you were saying earlier, you're trying to keep the middle of the road people out of it, because, the water business is there to stay. They're the people that are going to affect you, if anything happens, you know. **ML, Plant Manager**

Along with protecting the big companies within the market, the NSAI Standard was designed to keep a distinction between established companies and from perceived "cowboy" companies. The NSAI and bottled water companies recognize the commercial value of NSAI certification and this commercial value is a major reason why companies will decide to seek certification:

> *You see, at the end of the day, it's the value, well you see the problem is that they, if they're marketing as natural mineral water, if they're marketing either as spring water, natural mineral water, they have to be assessed, and they have to pay for assessment. Now the difference, if the difference in cost, is sufficient, they won't pay the extra.* **MO, NSAI Representative**

> *Well, we probably should* [be accredited], *because at the end of the day, RiverRock's market, it's an Irish brand, even though it's bottled here, it's sold within the 26 counties of the south, which makes up the bigger majority of the consumers. But at the moment, there's no selling advantage, we don't see any selling advantage in having an NSAI mark on the label or anything. But, it's probably, it's something that we have direction to do, in terms of getting NSAI accreditation.* **GS, Quality Supervisor**

In order for certain bottled waters to sell their product into large retail chains[5], they must demonstrate an adherence to certain official forms of regulation. In Ireland, the NSAI standard is the certification that is most desired. The ability to sell to large retail chains was one of the motivating factors behind the development of the original bottled water standard[6]:

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[5] "The EU 'Directive on the hygiene of foodstuffs' (Council of the European Communities 1993), which came into force in the UK in September 1995, has embodied many of the self-regulatory principles advocated by these 'big' retailers. It is a form of new regulation which demands individual firm self-regulation and assessment through, for instance, the extension of 'due diligence' procedures and the use of food hazard risk assessment. This latter procedure has been developed by the 'big' retailers and is being imposed on most of their suppliers. Suppliers must be able to demonstrate that all products have been subjected to a comprehensive hazard analysis exercise. This procedure, known as HACCP (Hazard Analysis Critical Control Point), identifies potential hazards at all stages of production and supply, and the controls required to minimize or eliminate risks presented. The application of this system in the supply chain gives a due-diligence protection in the event of a food quality problem" (Marsden et al, 1996: 16).

[6] The ten largest chains in both the EU and USA account for roughly 30% of total grocery sales; in individual US states and EU member states (most notably, Denmark, The Netherlands, France and the UK), the three largest retail chains account for 40-60% of the grocery market (Marsden et al, 1996: 4).

Depending on your client, if they [bottled water companies] *want to sell into Tesco and Sainsbury and Super Quinn, then they need the NSAI standard. Otherwise, they won't get in. So, depending on the ambitions of the client, you normally do it to that standard, or do everything so that if they wish to go to get that standard, they could, and, then they could also get the Natural Mineral Water standard as well, if they follow that.* **SO, Hydrogeologist**

It was the same with the bottled water when they were able to throw this down to the technical guy, because to sell to most of these big companies, supermarkets in England, you have a technical assessment as well as, you know there's a technical assessor as well. There is no doubt that this did help enormously, I am told, in helping to get them into the multiples. Going into Marks & Spencer and Tesco, to be able to throw down a document and say, this is what we are complying with, and then later to be able to say that we have ISO: 9000, we have this, you can come in. **MO, NSAI Representative**

Documents such as the NSAI's bottled water standard are of great commercial worth due to the increasing role that corporate retailers play in the regulation of food quality and to the widespread growth of corporate retail chains (Marsden et al, 1996).

8.7 Regulatory Intermediaries

The NSAI standard works to influence the type of water bottled in Ireland and provides a guide on how to bottle it. Along with the guidance provided by the standard, the NSAI also acts to audit a company's adherence to the standard's guidelines. The Food Safety Authority of Ireland authorises the NSAI to certify and accredit natural mineral water status in Ireland. The National Standards Authority is involved in many stages of the process of certifying Irish bottled water companies with the NSAI Bottled Water Standard. In order to make the first step towards receiving certification, a bottled water company must prove that its water meets the requirements set out for the definition of a natural mineral water.

The certification and audit of a bottled water company is undertaken by an audit officer of the NSAI. The Certification Inspection Officer (CIO) I spoke with was also responsible for auditing ISO: 9001, ISO: 14001, and ISO: 22000[7]. This CIO was also the primary auditor for the IS 432:2005, which is the most updated version of the bottled water standard in Ireland. His two main responsibilities are to prove that water is a natural mineral water and to inspect the production facilities to ensure that they should be given "permission to exploit" the water source. To fulfil the first part of the requirement, the CIO describes the process a company must go through in order to satisfy Annex 1 of the Directive:

> *The company has to prove to us it's microbiologically pure, it is a unique chemical fingerprint, it's chemically stable, and it's okay to put it into a bottle and sell it to the public without any ill effects. So, they have to put together a package. They would have to get a hydrogeologist, and the hydrogeologist would carry out a hydrogeological survey of the underground rock that's in the area where the groundwater is originating from, what is the type of rock it's percolating down through, how protected that underground aquifer is, so it has to be assessed from a hydrogeological, from a chemical and microbiological view.* **DM, NSAI Certification Inspection Officer**

The NSAI would then take the information submitted by a company and assess its findings through their panel of experts. If the NSAI is satisfied that the water meets the necessary requirements, they will then recognise it as a natural mineral water. After a company's water is defined as a natural mineral water, the National Standard Authority then provides a company with "permission to exploit" water from the water source:

> *Second element is to give them permission to exploit it, that is, to pull it from the well, and put it into a bottle and put it onto the marketplace, and that's when we go down to the company to make sure that all the appropriate controls that should be in place, are in place.* **DM, NSAI Certification Inspection Officer**

[7] These standards are a Quality Measurement System Standard, an Environmental Measure System Standard, and a Hazard Analysis and Critical Control Point Management System Standard.

Following the successful completion of this examination, a company would then receive permission to exploit the water from the aquifer and to sell it on the marketplace. Both of these tests are checked each time the CIO visits a bottled water plant on an audit. If the auditor does not believe both requirements are being met, the company's permission to exploit would be suspended until the NSAI is satisfied.

After establishing a company's certification with their standard, the NSAI sends the CIO out to conduct audits of each certified company's practices and policies. The auditor will enter the plant and have an open meeting with plant managers to review previous audit findings and any complaints that may have been made involving any of the company's products. After the introductory meeting, the CIO must inspect the plant to ensure the physical structure of the plant and its surroundings are actively maintained to control the extraction of water. The CIO will also examine surveillance systems of both the plant and workers to ensure that there is no interference with the water. Lastly, the CIO examines the analytical data, and the methods that produce them (DM, NSAI Certification Inspection Officer).

The inspection of the physical conditions of the plant begins outside of the plant. The security of the boreholes in spring fields are checked to ensure that nothing interferes with the flow of water. The boreholes must be firmly sealed to prevent nonhuman entities, such as insects, birds, rodents and other entities from interfering with the plant's extraction of water. The boreholes must also be locked to reduce the possibility of human sabotage.

Pest control is examined throughout the plant. The structure of the building such as walls, ceilings and windows are examined. Machinery like the pipe work, rinsers, and fillers are checked to ensure they are in adequate condition. The distribution warehouse is also checked, and the containers for water, including both glass and plastic bottles and plastic coolers, are checked to ensure they are stored in ways that reduce the possibility of contamination. Devices used within the laboratory, like incubators and thermometers, are checked to ensure that they're calibrated and that the thermometers are at the correct temperatures (DM, NSAI Certification Inspection Officer).

Surveillance systems of the plant are also inspected. The traceability measures for packing material like bottles and caps are checked. CIP programs and results are examined and the environmental monitoring and cleaning efficiency processes are checked. Worker surveillance is reviewed. The CIO will see which workers are on the production floors and check their training to make sure they have taken the relevant training courses. For example, a workers stationed at a Critical Control Point will be checked to make sure they have received the proper HACCP training.

Production records are also checked. Data from daily production tests, of the water in wells and after it has been bottled, is checked by the CIO. The CIO will also check the results and frequency of internal analyses, which have been tested by accredited laboratories. Tests for trace metals, trace organics, radioactivity, and pathogens like cryptosporidium are examined to ensure the water meets the various requirements.

The onsite laboratory facilities are also examined. Onsite tests, for things such as coliforms, E. coli, hardness, alkalinity, chloride, total bacteria count, and other are checked to ensure the results are within the Z values[8]. The test methods used by the laboratory are also checked and the laboratory is checked to ensure it is part of the laboratory proficiency scheme. The company would have to demonstrate that tests are conducted within the framework of the laboratory efficiency scheme.

Companies must prove that they are fulfilling requirements of both maintaining its water within natural mineral water and staying in control of the exploitation process. There are a variety of options available in the decision to punish a company that has deviated from the standard. These are selected in response to the severity and immediacy of the deviance.

> *Well, according to what it's saying here* (points to NSAI Standard), *you stop until you can prove that your resource is working within limits again ... Technically speaking, if you were out of limits for a parameter, they can recall. They can get you to recall your product. It's very, very strict. Like,*

[8] The Z value is a statistical measurement, it's an allowed tolerance within the true value that a result should receive.

the only kind of diversion from that, the natural mineral water rules actually allow you to go out of spec for a lot of things, if they're not health threatening. **PK, Company Owner**

The NSAI does announce its audits to companies that it plans to visit. This is done out of a professional courtesy as an audit requires a full day of attention from the visited company and many companies do not have large numbers of people working as regulatory supervisors. The frequency of visits is determined by the perceived level of risk from a company's operation:

It would be a minimum, I would say, of four times a year, we'd be going down, and every time we go down, it's a full day audit. In that full day audit, we are reviewing every batch of product that has been released from the previous audit. I have to go back through that data, check to the source analysis, that when they were bottling on the day they took a sample at the source, and they took a sample at the bottled product, at the start, after the next two hours, after the next two hours, etc., and at the end of production. **DM, NSAI Certification Inspection Officer**

Similar to Environmental Health Officers, the NSAI reports to the Food Safety Authority of Ireland. The NSAI will report to the FSAI because they are acting as their agents. However, information on audits pertaining to the other NSAI standards is not necessarily reported to the FSAI, unless there is a public health concern. After conducting a surveillance audit, the inspector produces a final report that includes what areas were audited and his final decision formed from the audit:

If I'm doing a natural mineral water audit, I will leave the company a typed report at the end of the day, outlining what we covered during the course of the day, and the various things we looked at, whether it was the boreholes and the production plant, and the warehouse, and the lichen test methodologies, and the laboratory efficiency schemes, and pest control and complaints, and training and so on, so forth, and, if I found any audit findings, I leave them a number of audit findings, if I found anything, and I would come to a general conclusion, and the general conclusion that you could come to is, well there's

two things that I have to make a decision on. One, do we still recognise it as a natural mineral water, based upon the analytical data I have viewed, and if I do, if I have determined it does still meet the requirements of Annex one, I'll say continue recognition. **DM, NSAI Certification Inspection Officer**

8.8 Conclusion

This chapter examined the discursive and material practices found within the establishment of the NSAI's bottled water standard. Brendan McGuinness, former managing director of Ballygowan, explained that his company "has a quality image and our rigorous quality controls ensure that this image is also the reality" (McGuinness quoted in Ballygowan, 2000: 4). The rigorous controls mentioned by McGuinness are governed by the NSAI and the NSAI bottled water standard, which helps produce a "reality" that includes various entities, including Ballygowan bottled water. The chapter "retraced" the development of the industrial standard and examined the "simultaneous production of knowledge and construction of a network of relationships in which social and natural entities mutually control who they are and what they want" (Callon, 1986: 202).

The scientific discourse located within the regulation of Irish bottled water is "firmly anchored in realities which are beyond the influence of language" (Kidner, 2000: 345). The development of the bottled water standard included entities that exist autonomously to scientific discourse, (individuals, aquifers, water), but the inclusion of these entities is influenced and modified by the discursive content of the bottled water standard. This is done by constructing specific definitions, policies and standards that were sourced from European and international regulation and that specify which properties of various entities are deemed worthy for inclusion. This selection process is informed by instrumental reason. As DeLuca states:

> Instrumental reason has become a way of knowing the world, an epistemology, and also a practice. The environmental crisis grows out of this epistemology and practice, which allow nature to be only that which is mathematically quantifiable and materially exploitable. Universalization and

> systematization make every place, every environment, the same as every other place – a storehouse of resources subject to an 'all-embracing economic calculus' (DeLuca, 2001: 321).

The results of the bottled water standard also reveal "concentrations of techno-scientific capital, symbolic capital, and financial capital, of State capital and private capital" (Derrida: 1994: 85), which are used to influence not only the industrial practices within bottled water plants, but also to influence the commercial practices outside of bottled water plants. The next chapter will provide a closer examination of the practices found with Irish bottled water plants.

Chapter 9: Strategic Collaborations

> Shall we investigate this kind of rationalism which seems to be specific to our modern culture and which originates in *Aufklärung*? I think that was the approach of some of the members of the Frankfurt School. My purpose, however, is not to start a discussion of their works, although they are most important and valuable... it may be wise not to take as a whole the rationalization of society or of culture, but to analyse such a process in several fields, each with reference to a fundamental experience: madness, illness, dealth, crime, sexuality, and so on (Foucault, 1982: 210).

9.1 Introduction

The study of the policies and practices within a bottled water plant provides an opportunity not only to study the physical exchanges that take place within each plant, but it also offers an insight into the thought that attempts to direct the collaboration of various entities that create bottled water. It is here where socio-natural outcomes are produced and this makes the bottled water plant similar to the collectives that have previously interested Latour:

> The reason why we went to study the laboratories, active controversies, skills, instrument making, and emerging entities was to encounter unstable states of nature/society and to document what happens in those extreme and novel situations (Latour, 1991: 287).

The bottled water plant is an arena where perceptions and definitions are incorporated into a collective that includes water and other nonhuman entities, plant design and technology, and workers' activities. Thus, an examination of a bottled water plant can examine how practices within the plant are "where nature and society and the space between them are continually made, unmade, and remade" (Pickering, 1992: 21). The view adopted by both Latour and Pickering highlights the unpredictable outcome from the interaction between water, human actors and others enrolled into the plant's production processes. In contrast to the contingency and uncertainty highlighted by

Latour, Adorno identified certain situations that demonstrate how the outcome produced from interactions between human and nonhuman entities could be totally controlled and predictable. In an observation of zoological gardens, Adorno argued:

> The more purely nature is preserved and transplanted by civilization, the more implacably it is dominated. We can now afford to encompass ever larger natural units, and leave them apparently intact within our grasp (Adorno, 2000: 115).

Adorno's statement reveals two beliefs that are addressed within this chapter: one in agreement and the other in disagreement. Adorno's observation provides an interpretation of how certain mixtures of human and nonhuman entities are designed so that some groups will be able to influence and control the resulting outcome of a collaboration of entities. Adorno uses the very general example of "civilization", but many more specific examples can be identified. This chapter has chosen the physical location where water is bottled by industry to examine how ideological values and beliefs influence the collaboration of entities involved in the production of bottled water.

These values can be traced throughout the entire production process, from the initial perceptions of water to the final result of manufacturing the product. A bottled water plant becomes the space to which the natural mineral water philosophy refers and describes and becomes the embodiment of the code that the regulatory discourse sets forth, making it clear from the first observation of a plant that a specific set of ideologies govern the space within and around a bottled water plant (Lefebvre, 1991: 44).

Adorno's observation also relies on the belief that "natural units" are "preserved", "transplanted" and left "intact" within the grasp of civilization. The proceeding study of Irish bottled water plants questions this view of "natural units" by revealing the agency of nonhuman entities within the production process in bottled water plants and by showing how human action is at times subservient to the requirements of water and several other entities. Practices within the plant are tightly controlled by the threat of interference by nonhuman entities and a significant amount of energy and time is

invested into the maintenance of the plant to counter any possibilities of entities interfering with the order that companies try to implement within the plant.

9.2 Drawing Boundaries

Callon's (1986) study of the agency of scallops located within the translation process he identified at St. Brieuc Bay did not focus much of its analysis on the structural conditions that influenced why the process was taking place. The fisherman's motives, the use of scientists to coordinate entrepreneurial activity and the aim of conserving scallop quotas within the bay are all driven by various ideological perspectives. The avoidance of these ideological influences, along with the exclusion of any significant historical understanding of St. Brieuc Bay presents the translation and enrollment at St. Brieuc Bay as behaving in a much more adhoc manner than what actually unfolded.

The bottled water plants studied throughout the field research are those associated with producing, or trying to produce, natural mineral water according to the guidelines dictated by the NSAI Bottled Water Standard (2000). These plants are therefore bound to the policies and procedures that are set forth within the standard. Furthermore, Irish bottled water plants are situated within a capitalist society that governs the production processes and goals of bottled water companies. The physical practices that are located within the Irish bottled water industry are influenced by past European traditions described in Chapter 6. The material activities of water within European society have helped to create philosophical approaches to and understandings of water that influenced how bottled water is defined and produced:

> *The primary difference between natural mineral water and spring water, and other bottled waters, is, with natural mineral water, it's sort of a unique European type of a philosophy, in that so many centuries in the past, they've been drinking water in Europe as a dangerous occupation, in that you had a good chance of getting typhoid, and not living to a full life. But there were wells in Europe that were known to be very pure, and centuries ago these wells, industries grew up around these wells, where these waters were bottled.*

DM NSAI, Certification Inspection Officer

Past historical conditions and contexts therefore aided the development of specific approaches to water within Europe. The European approach to water is not similar to that found in other bottled water markets, as many bottled water companies in the United States "take a water, and they treat it, and the more treatment it gets, the better it is, and it goes into a bottle" (DM NSAI Certification Inspection Officer)[1]. The definition of natural mineral water within the European approach involves a lack of human interference in the treatment of the water's properties after the water has been drawn from the ground. The "natural" element of natural mineral water is defined as being separate from and autonomous to human activities, and this belief was found to be popular amongst interviewees. The "nothing added, nothing taken away" phrase used by marketers is nearly identical to the thought that defines what is "natural" within the industrial standard. This separation is coupled with the idea that the "minerals" within the water are unique to the water's source:

> *So, the philosophy of natural mineral water is, we have an underground source of water that is microbiologically pure. It is chemically stable. It has a unique chemical fingerprint, in that if you analyse it, it can be distinguished from any other natural mineral water, or bottled water. And, it is put straight from the ground, into a bottle, without any treatment whatsoever.* **DM, NSAI Certification Inspection Officer**

The values found within both the European natural mineral water philosophy and the approach within the United States market have motives that are comparable to those found within the primitive cultures studied by Douglas (2002). Douglas (ibid: 5) found that the "ideas about separating, purifying, demarcating and punishing transgressions have as their main function to impose system on an inherently untidy

[1] The focus of popular American definition of bottled water is on the composition of the water after it has bottled, rather than prior to it being bottled. This is evident in the U.S. Food and Drug Administration's (FDA) product definition: "Bottled water is water that is sold for human consumption in sanitary containers and contains no added sweeteners or chemical additives . It must be calorie-free and sugar-free. Flavors, extracts or essences may be added to drinking water, but they must comprise less than one-percent-by-weight of the final product. Some bottled waters contain natural or added carbonation".

experience". While the European approach searches for water sources that have never been directly influenced by human activity, the American approach focuses more on trying to erase any evidence of influence by human activity. Both approaches want to place water within a bottle that is only allowed a specific set of characteristics, which shows that both approaches are forced to react to water's ability to perform as a solvent.

The "natural" and/or "pure" examples of water are defined in both approaches as being 'set apart' from the dirtiness and dangers of modern society, similar to how the attribute of a Godhead's holiness is set apart from primitive cultures (ibid: 62). Purity in both contexts is also similar to holiness of primitive cultures as they both demonstrate "order not confusion" (ibid: 67). The American order of purity is produced through technological control over any entities that have aligned with water. Cleaning techniques are employed to work against water's *previous opportunities* to act as a useful solvent. The European order seeks to discover sources that have only been able to align with only certain types of entities (i.e. certain minerals within aquifers) and then seeks to *prevent any future opportunities* for the water to act as a solvent in ways that might disrupt the production process. Both approaches to bottling water attempt to restrict other entities from entering the bottle alongside the water, and so both approaches must try to contain the ability for water to act as a solvent in ways that might dissent from the final result bottled water companies intend to produce.

The concern over the separation between water and other entities is a dominant theme throughout the organization of a bottled water plant. A similar concern is described in Zonabend's *The Nuclear Peninsula* (1993), where the nuclear material must be kept separated from human contact. In nuclear power plants, the material produced in the plant is considered dangerous and is kept away from workers. In the example of a bottled water plant, it is the worker and other actants within the plant that are restricted since it is the workers who are able to contaminate and disrupt the production process of bottled water.

These examples demonstrate how both the nuclear and bottled water industries must invest a great deal of time and energy in order to maintain boundaries between actants

within the plant. Any entities that are capable of causing dissent from this divide are perceived as "matter out of place" (Douglas, 2002). Adorno observed that "distance is not a safety-zone, but a field of tension" (2000: 127). This chapter examines the way in which the "distance" the Irish bottled water industry attempts to maintain from "natural" water is wrought with a series of tensions due to the agency of water and other entities within and around a bottled water plant. Instrumental reason drives a series of techniques to be employed throughout the production process in a drive to eradicate any opportunities any entities might have to act in a way that dissents from or disrupts the objectives of the bottled water plant. The next section will discuss how these techniques are applied[2].

9.3 The Role of Water's Agency

Rather than only focusing on the perceived threat human labour posed to the contamination of the water at bottled water plant, this section will seek to examine how certain networks of water and other nonhuman entities form within bottled water plants while others are prevented from forming. This view interprets the space within and near a bottled water plant as a space that can be contested by many different movements and actants. Instead of studying the interactions at the plant as exchanges between pre-formed entities, this approach examines the interactions at the plant as a range of negotiations for potential outcomes. This perspective therefore adopts a much more flexible understanding of what can be defined as an actor within the plant, and follows from Akrich and Latour's definition of an actant:

> Whatever acts or shifts actions; action itself being defined by a list of performances through trials; from these performances are deduced a set of competences with which the actant is endowed; the fusion point of a metal is a trial through which the strength of an alloy is defined; the object of analysis is

[2] Jay (1984b: 526) provides a brief comparison of Foucault's work with Horkheimer and Adorno: "Foucault's interest in the 'polymorphous techniques of subjugation', as he liked to call them, and his conviction that they were part of a complex network of power, invites comparison with the classical Frankfurt School's analysis of the 'administered society'. Indeed, there were a number of obvious parallels between his work and theirs, although Foucault was unaware of them until the mid-1970s. In Discipline and Punish, he presented a picture of increasing pervasive domination that complemented that provided by Horkheimer and Adorno in Dialectic of Enlightenment; in both cases, instrumental rationality was accused of complicity in the process (although Foucault tended to equate it with reason *tout court* in ways that the Frankfurt School never did)".

called a setting or a setup (in French a "*dispositif*") (Akrich and Latour, 1992: 59).

Rather than focusing on the strength of an alloy through the fusion point of a metal, the bottled water industry focuses its attention on the solvency of water. The role water plays within the bottled water industry is far more significant than the one it plays in the production processes of other drinks manufacturers. This significance was explained by those individuals working in the industry who recognised the importance of the water's composition, the type of aquifer in which it is located, the surrounding area of the aquifer and the overall security of the plant itself.

The agency of water influences the very initial stages of producing a natural mineral water as the industry standards are drafted in order to prevent water from not aligning with other entities to disrupt production process. One preventive method employed by the bottled water industry is seen in the guidelines designed for the acceptable mineral levels within the composition of a natural mineral water. A plant owner (who was also a hydrogeologist) explained that the concern over how water would be able to act within the pipework during the extraction process was a point of consideration in the definition of acceptable mineral levels in the industry standard. Certain minerals found within water were given lower maximum acceptable limits due to their opportunity to cause interference in pipework, rather than due to any immediate health risk they posed to potential consumers of the water:

> *The iron and manganese levels that are set, about 15 micrograms for manganese, and 200 micrograms for iron, that's crazy. They're far too low. Neither of those two elements* [are harmful], *until they're much, much higher concentrations. In fact, they're actually beneficial to you until you're virtually chewing nails, you know? I mean, the iron and manganese is recognisably going for the heart. Well, iron obviously, its blood production and all the rest of it. So, the levels are based on, stopping municipal pipe irons getting blocked by iron and manganese deposits, or iron and manganese bacteriological growth, or iron manganese consuming back to you, back to growing in the pipes. You know, and that's why the levels are there, because*

if they're any higher, you will get coating in the pipe work. **PK, Company Owner**

The minerals within the water can be considered as actants themselves, similar to Latour's (1988) study of the microbes involved in Pasteur's laboratory. In order to contain the possibility of water acting with specific minerals within the pipework of a bottled water plant, industry standards instruct companies to extract water from aquifers that have lower levels of certain minerals. An aquifer that has suitable characteristics was then seen in a very positive way and, in a sense, as a valuable ally to recruit into other networks within the production process. All respondents felt that the location and geological characteristics of their aquifer was a crucial component of their company's value:

It's [geological features] totally unique. We even mention it on the labels and things like that. It is a plus. This whole area, the aqua plane is massive here. The uniqueness is the red sandstone. **ML, Plant Manager**

The aquifer is what gives the water its qualities. The aquifer, at the end of day, is what gives the mineralization of the water as well, and consumers perceive RiverRock to taste better than other brands ... **GS, Quality Supervisor**

The minerals found within water that are provided by the geological characteristics of the aquifer are able to define the differences between a desirable and an undesirable water source for producing a natural mineral water. From the first stages of constructing a plant, the selection of the source of water remains vital for both production and regulatory reasons. A hydrogeologist describes some of the other factors that are able to dictate how a bottled water company selects a source:

So, in that side of it, in the hydrogeology, you would first of all pick out a rock formation that you knew had the potential for water. You then pick out an area of that formation that was very well protected from potential surface contamination. You would also then pick an area that was well protected, but you had reasonable access, because there's no point having it on top of a

mountain. Reasonable access, and in a relatively remote area. **SO, Hydrogeologist**

The hydrogeologist describes how the industry places a great deal of importance on the protection and the location of a water source. He provides a useful example of how certain geological features and location of a water source could be seen as beneficial to a bottled water company, and how these features could form a coalition against certain threats a bottle water company must ensure against:

There's a well, a potential bottled water source ... The well is going through Basalt, you know the Giant's Causeway is Basalt, and then it goes into chalk underneath. So, the Basalt is like a crust, a really hard crust on top, and the chalk is nice and soft, and they're pulling the water out of the chalk. So, that is an extremely well protected source, and if I had a choice, if I had a million pounds in my back pocket, and I wanted to buy a bottled water source, and I had that source in Northern Ireland with the Basalt on top of the chalk, really, really well protected, and a bottled water source where the protection was okay, but wasn't great, I'd spend my million pounds there. **SO, Hydrogeologist**

The hydrogeologist explains how geological features of a water source can be enrolled within the production process of natural mineral water, as they are able to help work against the water's ability to act as a solvent. These features act as allies that prevent water from combining with other entities (human and nonhuman) in ways that can disrupt the production of natural mineral water. The structure of the rock formation itself also dictates how a bottled water company must align itself with an aquifer. Different rock formations require different designs and this is described by a hydrogeologist:

There's a whole gambit of designs depending on the rock type, and the rock quality. If it's very poor rock, then you need one particular type of design, and if it's very good rock, that the hole stays open, naturally, then you need a different design, drilling gravel is very difficult, so that would need a different

design again. So, there's maybe three principle designs, with variations, depending on the actual specific site conditions. **SO, Hydrogeologist**

The water's composition, the geological features of the aquifer, the location of the water source and the structure of the rock formation of an aquifer are all viewed in terms of how they relate to water's solvency. The concern over water's solvency outside of the plant was described by an NSAI representative. During his final years with the NSAI, the representative had hoped to produce a series of documents that would provide guidance to Environmental Health Officers while they were inspecting bottled water plants. He felt that the existing documents ignored the threats from entities that could combine with water to disrupt the production process and he describes some of the threats he previously identified:

Like for example, if you take a railway line running through, and it's mentioned, a railway line running through near a bottled water plant is very dangerous, because they use weed killers, and the weed killers are washed into the ground. So, these are the kind of things, if you like, a cemetery close by is a problem. So, you know all of these things, you wouldn't think of, because water is such a good solvent, and it takes on average nine months to a year filtration through rock for the water to clarify, and it will take everything out in about nine months to a year, basically, as far as I understand. **MO, NSAI Representative**

The threat of contamination is also a central determinant behind the design of the bottled water plant itself, as different activities within the surrounding area can present the threat of mixtures and combinations that challenge the order that regulation aims to maintain. This can be seen with the design of the plant's wells and the security measures implemented to protect the wells. This security aims to deter accidental and malicious interference, and is designed to deter the "biggest boogeyman" that threatens bottled water companies:

We're not worried about contamination of the well because of what we have done. We've enclosed the wells. We've put explosion proof guarding on them. We have security. **DS Production Manager**

Surface protection, that is one of the things that we are really, really proud of. Surface protection resources can stop your business. You get a contaminated aquifer, everything you've done, and it's hard to insure and provide against, because it is the one, it is the biggest boogeyman that should haunt every bottled water factory in the world. **PK, Company Owner**

These precautions mentioned by plant managers are consistent with the guidelines laid out by Codex regulations 2.3.12, which state:

> The immediate surroundings of the extraction or collection area should be protected by limiting access to only authorized persons. Wellheads and spring outflows should be protected by a suitable structure to prevent entry by unauthorized individuals, pests, dust and other sources of contamination such as extraneous matter, drainage, floodwaters, and infiltration water (Codex, 2001: 4).

The Codex recommendations identify several entities and external activities that are capable of disrupting the natural mineral water established by regulatory and industrial practices. Douglas (2002: 45) believes that, "our pollution behaviour is the reaction which condemns any object or idea likely to confuse or contradict cherished classifications" and the precautions taken by bottled water plants can be viewed as attempts to prevent water from acting with other entities in ways that could disrupt the water's classification as a suitable source of bottled water. This classification is vital for a bottled water company, which makes the water a more central feature of the production process when compared to its role in other industries. One plant manager describes the importance of the water and the aquifer in the manufacturing process:

Insofar as, that, of all manufacturing processes, if you want to call it a manufacturing process, this is probably the one where the raw material is critical. If the raw material is not of the required standard in the aquifer, if the aquifer itself is not maintained to the right level, then you're finished before you even start. Because what we're doing is, in many ways, very complicated, but in many ways, very simple, insofar as we're taking a natural

product, we're extracting from the aquifer, and putting it into bottles. And, my job is to put it into the bottles, but also to maintain the integrity of the product while we're doing that. **DS, Production Manager**

The water must be chosen and then isolated from other entities to maintain its ability to be used within the production processes of a bottled water company. Water occupies a mixed role within the views of production. It is, in one sense, cheaper and easier to simply discard than other products manufactured by the drinks industry. In another sense, its solvency is such a threat that it must be maintained within the strictest regimes of hygiene control. A plant manager explains how the perceptions he developed during his time working in the dairy industry were shaken after he began working in the bottled water industry:

It's a strange thing, because when I came from the milk side of it (previously employed in the dairy industry), *just from my own side, I couldn't believe the way that you go out there and you'll see something, bottles with crooked caps or whatever, and just pouring the water down the drain, you know. It was a big difference, to see, from working on the milk side of things. It's not that it is a cheap product or anything like that, but the standards are every bit as high, if not higher, than producing the likes of milk like I was used to.* **ML Plant Manager**

Water occupies an interesting position within the plant, as it is seen as both disposable and dangerous within the production process. The danger of its solvency is at times countered by the ability to dispose of it if there is a risk of contamination or a risk of threatening the natural mineral water status of a company. The idea of "natural" within natural mineral water status is similar to how holiness was perceived in the cultures studied by Douglas (2002). Holiness abominates "hybrids and other confusions" and "the word 'perversion' is a significant mistranslation of the rare Hebrew word *tebhel*, which means 'mixing' or 'confusing'" (ibid: 66). As explained by the plant manager above, the prevention of mixing water with other entities is of critical importance to a bottled water plant.

The solvency of water provides it with the capability of mixing with other entities before, during and after the extraction process. Certain mixing is acceptable, such as when the water absorbs properties of an aquifer that gives it the "unique chemical fingerprint" required to be defined as a natural mineral water (NSAI, 2000). Other mixtures are totally forbidden; bottled water plants are designed and built in an attempt to prevent the water's ability of combining with other entities after it has been extracted from the aquifer. The threat of a contaminated product is something that all food and drinks companies must be concerned with, but, as one plant manager explains, the bottled water industry must have the prevention of contamination at the very forefront of a plant's practices:

> *We have it* (contamination) *on high priority all the time, to be quite honest. We run courses twice a year on hygiene and all the standards here ... You have to, and on all the equipment out there that is used and all the procedures in and out and everything like that. We have to, and we stringently stick to them.*
> **ML, Plant Manager**

Hygiene courses, HACCP guidelines and the Cleaning in Place (CIP) procedures are found in every plant and they are designed to suit the specific requirements of the water used within each plant. While procedures seek to produce universal standards within the regulation of bottled water, there are differences due to the type of water in the plant:

> *The regulation of what you do in the plant is not as specified and it's all taken from the European Directives, which again is what everything is based on. So, the 432 is based on the European Directives. The only thing they'll specify is that you should have, and they don't even specify that, is that, you know, it's under the hygiene regulations, you should have a CIP system in place. Now, what CIP system you have in place is dictated by the type of water you have. We have a hard water. We interpret it based on hard water, so therefore you've got to use descalers, etc., on whatever routine basis. So, our CIP is very much driven around how we actually descale our lines, and all that sort of thing. Where if you go to another company, for example, like RiverRock,*

that has a softer water, their CIP system would be very different to ours. **PM, Quality Assurance Manager**

The agency of water is able to influence many of the cleaning procedures and even the quota levels of minerals permitted within the water source. This is evident in the supervision of the pipework within a bottled water plant. The CIO explains that while certain bacteria may be considered harmless[3], they must still be immediately removed:

> *That it's [bacteria] perfectly harmless, and you can consume it, and it won't cause you any ill health effects. But eventually you'll get a biofilm of those bacteria growing within the pipe, and those bacteria then can provide a finger hold for other, more dangerous bacteria, what we call opportunistic pathogens, and the one we would be very concerned about for the bottled water industry would be a pathogen called Pseudomonas aeuruginosa, in that is an opportunistic pathogen, and if that got into the water, it would be very serious.* **DM, NSAI Certification Inspection Officer**

Douglas (2002: 44) believes that "if we can abstract pathogenicity and hygiene from our notion of dirt, we are left with the old definition of dirt as matter out of place". The potential of nonharmful "dirt" to become dangerous within the pipework is described by a plant technician who explains how it similarly can be seen as out of place, as its presence within the pipework of a plant (rather than within water in an aquifer or elsewhere) allows it to enroll other bacteria to disrupt the natural mineral water established by a plant:

> *There are many species that aren't pathogenic, and that could be prevalent in water, and they're kind of slime forming if you like, those type of bacteria, that*

[3] Similarly, Douglas (2002: 44) states that, "our idea of dirt is dominated by the knowledge of pathogenic organisms. The bacterial transmission of disease was a great nineteenth-century discovery. It produced the most radical revolution in the history of medicine. So much has it transformed our lives that it is difficult to think of dirt except in the context of pathogenicity. Yet obviously our ideas of dirt are not so recent. We must be able to make the effort to think back beyond the last 150 years and to analyse the bases of dirt-avoidance, before it was transformed by bacteriology; for example, before spitting deftly into a spittoon was counted unhygienic".

you could get them forming films on pipes if you don't have a good cleaning system in place in your factory. **HO, Quality Assurance Supervisor**

Pipework cleaning is one prohibitive measure taken by bottled water companies to prevent any unwanted mixtures with water. These precautions are also what influence the use of machinery and technology within the plant. This is again similar to the nuclear industry, which utilizes automation to ensure a divide is maintained between radiation and the surrounding area:

> With the object of improving safety, the trend is towards more and more automation of production tasks and a greater and greater degree of computerization of control functions. Man, regarded as the weak link in the man/machine partnership, is gradually being eliminated (Zonabend, 1993: 102).

Nuclear power plants use technology to further control the divides between nuclear material and the surrounding area, just as a bottled water company uses technology to maintain the divide between the surrounding area and its water source. Marx wrote that, "technology discloses man's mode of dealing with Nature, the process of production by which he sustains his life, and thereby also lays bare the mode of formation of his social relations and of the mental conceptions that flow from them" (Marx, 1996). Marx's argument strips away any illusion that technology is a neutral action or product, and instead it could be viewed as working for or against other networks of practice. Feenberg (1994: 283) further argues that technology should not be seen as neutral or ambivalent, but instead technology "is a social battlefield, or perhaps a better metaphor would be a parliament of things on which civilization's alternatives are debated and decided".

The technology implemented in the bottled water plant is clear evidence of this argument, as it has been enrolled for certain key purposes. A popular perception of bottled water generally includes a very simple operation of taking water from an aquifer and placing it in a plastic bottle. This perception can be associated with how Geoff Read began Ballygowan as a family-run enterprise and at that point it involved

machinery that required a larger amount of human involvement than the current system in place at the Ballygowan plant:

> [Bottles were filled] literally by hand, it was a very primitive system, with a pump and filters and tanks and virtually a row of taps. Now the water was tested extensively and every bottle originally during the test marketing phase was individually checked and individually labelled and sent out with tender loving care. And we sold 30,000 bottles during the test market on that basis … I went around in a van doing the deliveries and did the invoicing. And my mother and my sister and my girlfriend at the time who is now my wife spent hours labelling (Read on The Late Late Show: 1987).

This image of the bottled water industry does not usually include advanced technology or machinery, however all respondents felt that technology and the machinery within the plant play a vital part of in the production process. Technological innovation is not only enrolled to mass produce a product at a phenomenal rate, but technology is also used as a way to ensure the regulatory order of natural mineral water remains intact. This impact is felt in the potential output of the plant, which has transformed the type of commodity that bottled water has become:

> *Technology has a huge role in what we do. To produce the amount of water that we produce here everyday would require a workforce of maybe four times the size of the current workforce, thirty, forty years ago. So, automation, technology, state of the art equipment, it's vital to our production process. It's vital to us being able to put a product on the shelf at a competitive price, and really commoditize the water market. That people no longer see it as a luxury or as a treat. That they see it as something that they will do in their weekly shopping. And that is the way that the market has gone. When Ballygowan came out, twenty-five years ago, a 1.5 litre bottle of Ballygowan was probably about one pound fifty.* **DS, Production Manager**

The revised form of technological devices within Irish bottled water plants represents a change that has been seen in other industries. When Geoff Read first began his

interactions with the aquifer, the final recipients of the collaboration were connected to a small and mostly middle-and upper-class Irish consumer. The marketing discourse at the time, one that connected to a person ordering water at a restaurant, was communicating to a very specific and small section of the Irish population. However, as technology was recruited to produce at a higher capacity, the Ballygown bottled water company "required an equivalent increase in potential consumers of its goods" (Ewen, 2001: 24). The multi-dimensional qualities of water within the network of production at a bottled water plant and in its communicative possibilities within marketing discourses reveals how networks are able to align through a common actant:

> The mechanism of mass production could not function unless markets became more dynamic, growing horizontally (nationally), vertically (into social classes not previously among the consumers) and ideologically. Now men and women had to be habituated to respond to the demands of the productive machinery. The corollary to a freely growing system of goods production was a 'systematic, nationwide plan... to endow the masses with more buying power', a freely growing system of consumer production. The modern mass producer could not depend on an elite market to respond to his productive capacity ... [The manufacturer] was required to create an ideological bridge across traditional social gaps – region, taste, need and class – which would narrow prejudices in his favor (Ewen, 2001: 24-25).

The relationship between the machinery involved in the production of Ballygowan and other Irish bottled waters and the size of its consumer market should not be viewed as developing in one direction. There was as much a requirement to develop the Irish consumer base (as mentioned in Chapter 5) as there was to develop the machinery to mass produce bottled water. Mass consumption required mass production, and vice versa, as technology has radically transformed the production and consumption of bottled water:

> *A filler that would produce ten thousand bottles per hour was almost unheard of thirty years ago. Now, a filler producing forty thousand bottles per hour is considered not to be unusual, and that is the way that the industry has to go.*

Now, I suppose, in that smaller manufacturers tend to find it more difficult than the bigger manufacturers". **DS Production Manager**

The rapid change in production capabilities drove the need for more consumers, which led to the developments in bottled water marketing described in Chapters 5 and 6. Along with the aiding the productive capacity of a bottled water plant, technology also provides the management of a company with a means of surveillance and control. Technology is able to not only implement the regulations that are in place in the operation of the plant, but it also ensures that the regulatory order established within the plant is maintained throughout the production process:

It's not just the machinery per se, but it's the computer controlled systems that we have that ensure that we take exactly the amount of water we want to take. That we sterilize our equipment with exactly the amount of sterilent that we want to use, and exactly the temperature that we want to use it at. **DS, Production Manager**

The bottled water industry responds to the agency of nonhuman entities by adopting practices to counter the ability of nonhuman entities to dissent from enrollment. The interactions between a source of water and its surrounding environment reveal a very close attention to detail in how a bottled water plant is aware of water's capabilities of working against the order it tries to impose on the area. The following section will discuss the management systems that are integrated into the plant's production process that attempt to provide surveillance of the agency of both human and nonhuman entities.

Section 9.4 Discipline and 'Purity'

The management systems of bottled water companies attempt to hold both workers and nonhuman entities to roles that will work to reproduce the order prescribed by industry standards. The techniques employed within these systems share many common strategies to those found within the disciplinary regimes studied by Foucault (1979). The "docile bodies" subjected to various surveillance techniques within

prisons, armies and other social institutions were located within various systems of control that were governed by instrumental reason.

Entities located within and near the production process of a bottled water plant are "directly invested in a political field" and the power relations found within the bottled water industry attempt to cast "a huge hold on them" (ibid: 25-26). The power relations within the bottled water industry are not defined here as merely an institution, structure or strength, but instead power is understood as "a complex strategical situation in a particular society" (Foucault, 1990: 93). The 'social' element located within a bottled water plant is understood in terms of the theoretical approach of society advanced by Latour.

Latour (2005: 5) would not define the social aspects of the plant as "some glue that could fix everything including what the other glues cannot fix" and instead he defines the social as "*what* is glued together by many other types of connectors". Latour (ibid: 5) therefore believes that rather than adopting a "science of the social" approach used by many sociologists, a social researcher would do better to develop an approach of "tracing the associations" to understand the social not as a "thing", but as "a type of connection". This theoretical approach was incorporated with Foucault's theoretical understandings of power to develop a critical understanding of the structures and practices observed at bottled water plants.

This approach views the strategic situation found within bottled water plants as being the highly efficient and strictly regulated mass production of bottled water. This situation was not a thing to be studied, but instead it was a collaboration of human and nonhuman entities. The strategy behind the operation of bottled water plants dictates how plants and processes are designed and how both human and nonhuman entities are governed. The attempt to control the agency of entities within this society is understood as the game of power described by Foucault:

> We must distinguish between power relations understood as strategic games between liberties – in which some try to control the conduct of others, who in turn try to avoid allowing their conduct be controlled or try to control the conduct of others – and states of domination that people ordinarily call

'power'. And between the two, between games of power and states of domination, you have technologies of government – understood, of course, in a very broad sense (Foucault, 1988: 19).

Aquifer management systems try to control the rate of pumping and define the frequency of testing procedures to observe the well. This ensures that the water movements through a well are kept under strict surveillance and management. A bottled water plant aims to keep the rate of pumping within certain limits in an attempt to produce a regular flow of water through the well.

A well is just a [small] point in the aquifer. So, it's very, very hard to over pump the entire water resource of the aquifer. However, it's quite easy to over pump the well, because you might pull out more water than is able to flow in. Ballygowan have an environmental management system and they also have a production management system, which is ISO: 9000, and the environmental is ISO: 14000, and I would write the procedures for those relevant systems, of which, for example as you say, over pumping would be one, and the optimum rates to run the different wells at. **SO, Hydrogeologist**

Optimum rates are defined and then followed by a bottled water plant to ensure that a well does not overflow with water. The movement of water through a well and into the plant also must be maintained at a certain rate known as "steady state conditions" to ensure that the water is collected without gathering any significant amount of sediments from the aquifer. The water flow is inverted controlled so that varying amounts of current goes to the pump. This allows the pump to continuously draw from the aquifer without ever having to fully stop its action:

That way we maintain an equilibrium in our aquifer, and we don't have any great peaks and hollows in our demand from the aquifer as such. Basically to maintain an equilibrium in the well field itself because if you can imagine, taking the water from fissures in the limestone so if we take, say 10,000 litres over a certain period of time, over a short period time, then take nothing, then take another 10,000 litres, well, the limestone or the, the fissures are reacting up and down, so you're not getting what we will call steady state conditions.

That may lead to things like historic silts, dolomite, various sands of whatever, that's down there, being turbulent. You can get unnatural turbulence, whereas if you draw off at a set flow, it's almost like a crack in the system. **DS, Production Manager**

The water flow must be strictly monitored and controlled, otherwise elements within the aquifer can be triggered to react and disrupt the water supply. Not only is the water flow within the aquifer monitored, but there is also concern for other entities that must be contained to ensure there is no interference with the water supply. Management systems are designed to build up knowledge of the surrounding area to be aware of any possible threats of contamination:

You then also have a land use monitoring program, so that you monitor mainly planning applications, to make sure that whatever is built upgradient of your source won't pollute, or, if there is a potential that it might pollute, you then write to the local authority voicing your concerns, and in the case of Ballygowan, what they would do, they would actually suggest how it might be mitigated, rather than saying we don't want development full stop. They say, well if this development has to go ahead, then we would respectfully suggest the following, and nine times out of ten, that's what's done. **SO, Hydrogeologist**

Similar to the power of Bentham's Panopticon (Foucault, 1979), there is a form of invisibility that attempts to guarantee order. Plants would be unable to see all the various entities that water could align with, so instead they seek to restrict entities within the production process from engaging in any opportunities of unauthorized agency. This is done by both enrolling a series of actants to work against any coalitions that may produce dissent, and also by ensuring that the water leaves the well and is placed in a capped bottle as quickly as possible.

A plant's objective with regards to controlling the actions of entities is similar to the actors described by Bentham, as the surveillance systems of bottled water plants work to ensure "there is no danger of a plot", no "attempt at collective escape", no "bad reciprocal influences"; "no danger of contagion"; "no disorders"; no alternative

"coalitions", and no actions that could "cause accidents" (Bentham quoted in Foucault, 1979: 200-1).

There were common strategies followed by different companies to counter against any dissenting entities. This general strategy is evident in the design of the water's extraction and bottling (see Figure 9.1). The path starts when the water is pumped from the well, the bottled water plant is designed to prohibit certain entities from entering with the water. Pumping systems install coarse filtration, which first begins with 10 microcon, then 3 microcon and finally a 1 micron filtration. This prohibits silts, sands and other unwanted elements from entering into the production process. After the filtration process, water arrives in a silo where it is then taken into various production lines of a plant.

The water then moves into the filler, which is what directs the water into bottles. Bottles in several plants are brought to the line in large pallets, and are then brought onto the production line by a de-palletizing machine. Prior to the pumped water moving into a glass bottle, the bottles are rinsed with sterile water, drained and then filled with the intended water. Following the water's entry into the bottle, the bottles are then capped. Plastic bottles in a few companies were first begun as "blanks", or smaller models that are eventually blown into fuller size bottles on the production line. They are then sent into an unscrambler and sent along an air conveyer to the filler. The water and the bottle then await the arrival of a cap which seals the water within the bottle.

Caps arrived into plants in sealed boxes. They are put into a "hopper" and conveyed to the top of the filler and then moved down a chute to the bottle. The caps are also sent through a series of UV reflectors during this journey to further eradicate the possibility of any unwanted contaminants from aligning to the cap. Throughout this process, the management of the plant emphasizes the importance of a time efficient process so that water had little time to attempt to negotiate alternative alliances or directions.

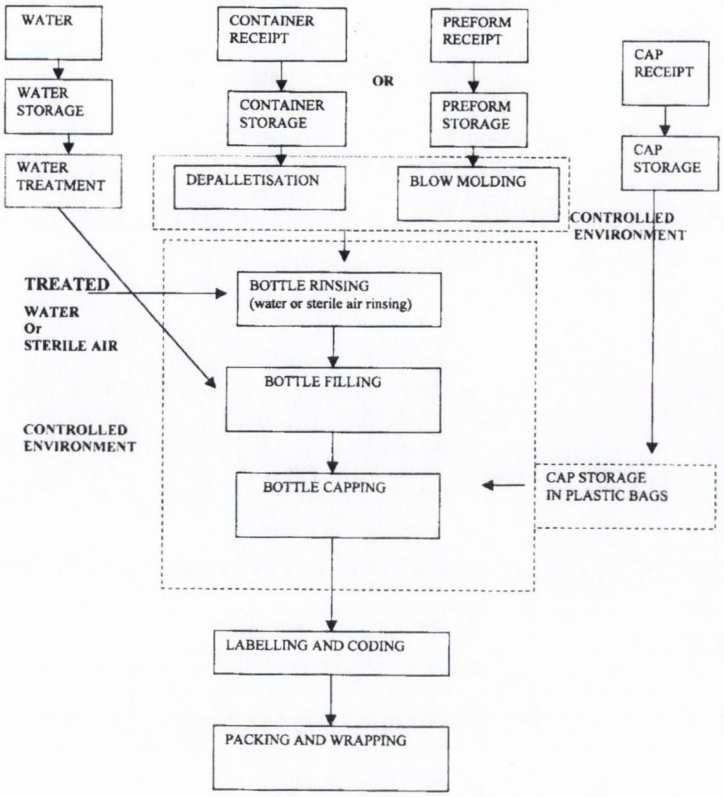

Figure 9.1: Process Flow Diagram for Bottling Water

The technologies of governance within the bottled water industry can be observed in the many management and surveillance systems that are integrated into the production process. A bottled water plant takes a vested interest in its surrounding area, both in local activities and applications for planning permission. An FSAI representative discusses the importance of protecting and controlling the water source and discusses the general importance of a company avoiding contamination:

> *The hygiene of the plant is important, the management system is important to see that they have proper controls in place, but obviously a major issue is the control of the, and protection of the source, because there is no fallback position. Raw material comes out of the ground and is bottled. You have to make sure you don't contaminate it in the course of packaging, and you have to make sure that before it gets in it is not contaminated.* **RE, FSAI Representative**

The management system described by the FSAI representative takes into account the movements and possibilities of agency of a broad range of entities. Bottled water

companies place a lot of importance in knowing what possible disruptions to the production process could be caused from activities outside of the plant, and they seek to prevent any possible "dissent" from the management of the aquifer. Companies are constantly checking the surrounding area and larger companies will employ people solely to provide both knowledge of the surrounding area and the aquifer itself:

> *We use this guy who built up a knowledge of the area, because it's very important when it comes to hydrogeology that you know the whole area and aquifers and fault lines and what not. So, basically he would tell us what, from a yield point of view, what in terms of how safe the draw down level, so we that we don't overabstract from the water, because once you get into overabstraction, you're taking drawdown level down. He would keep a close eye on groundwater levels, the aquifer levels, and we're monitoring wells around the site as well.* **GS, Quality Supervisor**

The importance of securing the plant from contamination can be seen in the increased attention it received when the quality supervisor's carbonated soft drink (CSD) plant also began to manufacture bottled water. The decision to produce bottled water required further regulatory procedures, as explained by one regulation supervisor:

> *Years ago we were just a CSD plant, probably wasn't talked about, but now that we're a bottler, and there's regulations in terms of groundwater protection and making sure you know what your recharge area is, making sure that Environmental Health let us know what's happening in the area, so that it's not going to allow potential contamination. So, Environmental Health know what our recharge area is, like we do, like a lot of these training courses now, they're telling you to walk your recharge area, to make sure that there's nothing happening, or potentially happening.* **GS Quality Supervisor**

Bottled water companies must survey the surrounding area and secure the wells and boreholes of the plant. Security of wells and surface protection is part of the general aquifer protection plan. Ballygowan has developed its own Aquifer Protection Plan to protect against contamination of the water source. A Ballygowan representative

explains how this plan covers the company's own policies and activities, but also the activities of the local county council:

> *Under aquifer protection, contamination is the main thing you're protecting it against. So any aquifer protection plan that you have in place has to warrant against possible contamination of your aquifer... So therefore you have an aquifer protection plan in place which encompasses relationships with county councils, reviewing activities within your catchment area and maintaining, we'll say, your own activities on site so that you don't have problems in reference to contamination. So, protection of our aquifer is dictated by prevention against contamination ... It's there because we've got to protect our aquifer. From what? From contamination.* **PM, Quality Assurance Manager**

The interaction between a bottled water plant and the surrounding area is similar to the interaction between a nuclear power plant and the surrounding area in Zonabend's *The Nuclear Peninsula*. Zonabend (1993: 51-55) explains how the nuclear industry would consult with representatives from the local area and discuss the impact the plant could have on the environment. The nuclear plant would attempt to assuage worries that local residents might have about the dangers of radioactive materials from the plant.

A strong focus on the interaction between a plant and the surrounding area is also evident in the bottled water industry. However, in the case of bottled water, companies seek to reduce *their own concern* over the dangers presented by the activities within the surrounding area. One danger posed by the surrounding area would be a human actant triggering a series of events that would enrol entities towards a direction of action different from the bottled water company's goal:

> *I'd be 99.9% sure that nobody else intercepted this aquifer that we're taking water from. Now, at the same time, I keep an eye on it, because the other side, is if I have a borehole here, and I have all my controls in place, and then Farmer Murphy has one down the road, and he drops his welling company down the hole, and contaminates it, it could knock my aquifer. And one of the*

things you look at, you know, seriously, or I will look at seriously, are transit times. In other words, just how long does it take when it rains, hits the floor, to get into my borehole. And certain types of geology can be a matter of minutes and hours. And in others, in particular, like ours for example, we could be talking thousands of years. **PK, Company Owner**

The company owner ensures that human activity does not interfere with the composition of the aquifer's water and also the flows and levels of the water in the aquifer. Along with keeping surveillance and security of the surrounding area, the owner monitors the performances of the entities involved in the extraction of water by looking at the transit times. The general surveillance of the surrounding area's activities was also noted by the coordinator of the NSAI Standard. Unlike other food and drinks industries, the NSAI representative believed that bottled water companies had more Critical Control Points that were located outside of the plant itself. He believed many regulatory inspectors might not be aware of this and planned to develop reference documents to instruct inspectors on the importance of the surrounding area:

But, the interesting thing of course about critical control points [currently in the standard], *they aren't what cause problems. They're not the Critical Control Points. They're all very well managed. It's general, good hygiene practices, but when you come to bottled water, if you've got somebody who is in fact setting up Wicklow Water, would be on a hillside, it's on the hillside and there's a farmyard with a slurry tank, where the aquifer is, most Environmental Health Officers wouldn't have that knowledge. They wouldn't have done hydrogeology, so they wouldn't have been aware that there could be a risk in the catchment area. There are areas like that where really there's a lot of logic in having reference documents that people could look at.* **MO, NSAI Representative**

The various threats identified by bottled water plants reveal the many avenues power can be exercised by and against a bottled water plant. The bottled water plant strategically works to recruit certain entities and activities as possible allies and actively works against possible threats through knowledge and preventative action.

This type of organisation demonstrates the many variances in force relations identified by Foucault:

> The multiplicity of the force relations immanent in the sphere in which they operate and which constitute their own organization; as the process which through ceaseless struggles and confrontations, transforms, strengthens, or reverses them, as the support which these relations find in one another, thus forming a chain of system (Foucault, 1990: 93).

The organisation of a bottled water plant's activities and objectives also includes worker activities, and training of workers takes place through a variety of programs and is dictated by a number of regulatory policies. One of the most influential training programs within the bottled water industry, and other industries (Nestle, 2002) is the implementation of Hazard Analysis Critical Control Points (HACCP) guidelines. The HACCP guidelines within the food industry have been tentatively adopted into the Irish regulatory system through IS-340. A regulatory supervisor at a larger plant explains the annual process that takes place to train workers under HACCP guidelines with reference to legislation and internal training procedures:

> *And under the auspices I suppose of hygiene and HACCP, there are requirements under law that you should update your hygiene and HACCP training on a yearly basis, which becomes part of that plan. So, therefore what you do is, you take them either as teams, in some cases what we do is, is we do plant-wide training where we take them off site, and we do an intensive hygiene course. We have hygiene trainers in house. So, we do what we call formal and informal. So, every second year, we do a formal, where we get external people, external hygiene trainers which would go through hygiene and HACCP, and they would go through the whole processes as well as the legal side of things. Take the law, and then our internal guides do it the following year. So, every second year, you get what we call formal and informal training in reference to, and as the standards change, like for example, I would get involved with the drafting of the internal training for, so let's say okay, we'll have had a new hygiene directive last year, what does it mean for Ballygowan, etc.? We have hygiene meetings here, which involves*

cross promotional teams from every other plant, every two weeks, on the legal side as well, as the non legal side gets raised on a regular basis. **PM, Quality Assurance Manager**

Most large companies have internal guidelines that conform to regulatory standards in both Irish and European systems and have methods to keep their monitoring systems updated. For example, the Kerry Spring plant by law has a HACCP plan in place, but as a member of Kerry Group, it is also part of a system called 'Kerry Net', which is "an internet system that keeps us up to date on any new legislation that comes into place" (HO Kerry Spring). Another regulation manager within a different large conglomerate discusses how a plant worker is trained into the system at his company:

We've actually got an onsite training coordinator, so she would set up, by procedure, who's been trained, she would have all the records in terms of who has been trained and verified in each of the procedures. We have a policy of not having any temp workers, in what's known as sensitive areas, so the likes of filling areas, the likes of water treatment areas. So, that's a Coca-Cola mandate, that we don't have temporary workers in sensitive areas, so it fits well with bottling water as well, that you don't have a temp working in a filler area, a high risk area of producing water, because basically it comes out of the ground, and it's filled, sealed, and goes down the line. So, that's the one area that if contamination is going to happen, it will be in that environment. **GS, Quality Supervisor**

Smaller bottled water companies would have far fewer members of the workforce dedicated to the implementation of regulatory standards, however one owner feels that their system produces very well-trained staff members:

We're a bit different to everybody else, because we're a small company, but the staff, the 7 staff I've got here, we've trained, and they're two years into their process of becoming really, really good at bottling water, checking for things, spotting even a cap that's not been closed properly, that comes out. We have really good quality control, and I suppose our biggest asset is the quality of your training. **PK, Company Owner**

The same company owner provides an explanation of the strategy that his company utilizes in the training of employees:

> *We actually have a two pronged approach. They'll have a HACCP manual, and before they get that manual, they get formally trained by the laboratory who will actually come in. They're actually qualified to issue certificates for HACCP training, and usually I send them down the laboratory for the first part of the course, and as it's happened on the 3 times we've done it, people go back for a refresher as well, and they get shown around the lab, they get shown other samples that they'll have from food processing, they do a lot of seafood analysis and that, and they also do a lot of water resources for public supply, and private domestic supplies, so they show them all of these horror stories basically, what can go wrong, and they can also show them levels of contamination that arise from the smallest of incidents. So they're getting hammered home that. Then they come back here, and they'll sit in here, in quite an informal atmosphere, and they'll go over the HACCP plan with somebody from the lab, then we'll go around the area, and unless they've done HACCP training, they're not allowed to work in the bottling area.* **PK, Company Owner**

The bottled water industry also monitors the interaction between workers and water, but the concern here is to monitor the degree of exposure the water has to contamination by workers. Workers are subject to continued supervision after the completion of a training program. This supervision is similar to that observed by Foucault, where there is a supervising of "the processes of the activity rather than its result" (1979: 137):

> *So then they'll go into the bottling area supervised by somebody until we're sure that things are right. And then we'll often discuss informally and formally, we would take monthly reviews on how things are going, checking all their documentation is up to date, checking that everybody's still, not just going through the motions, as they would a nuclear power station. Same thing, people get to go through the motions, next minute, you've got a big*

problem, and that's what would be, a big, big concern, in any food processing plant, you know, people taking shortcuts, cutting corners, or going through the motions, not applying the rules. **PK, Company Owner**

Companies will keep surveillance of workers by monitoring the results of swab tests conducted by microbiologists. The surveillance of worker activities is similar to "the concomitant regimentation of docile bodies under the discipline of the prison, the workhouse, and the factory" (O'Neil, 1986: 43). A central method of controlling worker behavior is provided by the guidelines set forth in regulatory industrial documents such as those published by Codex Alimentarius and the National Standards Authority of Ireland.

Worker behaviour in bottled water plants is policed not only in terms of ensuring the most efficient and productive output, but also to ensure that there is no disruption of the divide between water as a purely natural resource and workers as a purely social collective. The body of a plant worker, just like other entities involved in the production process, is an "object and target of power" in the sense that workers are regulated in a similar way as the workplace and in order to achieve the same ends. The goal here is to maintain the enrollment prescribed by the bottled water industry and to ensure that no dissent from this enrollment is possible.

Douglas believed that a reflection on "scrubbings and cleanings" involves "separating" and "placing boundaries" (Douglas, 2002: 85). The behavior of plant workers is regulated to ensure that boundaries are placed between workers and other entities involved within the production process. Codex Standard guidelines illustrate this objective by showing how certain practices would threaten the order that a bottled water plant must maintain. The prohibition of certain behaviours near handling areas in a plant "such as eating, use of tobacco, chewing (e.g. gum, sticks betel nuts, etc.) or unhygienic practices such as spitting, should be prohibited" (Codex, 1985:11). Further than prohibiting certain practices in the handling area, Codex guidelines also provide instruction on what workers should do while working. All workers "should wash his hands frequently and thoroughly with a suitable hand cleaning preparation" (ibid: 11). The end result of washing hands is also considered by the scope of Codex guidelines, in case discarded paper towels are left to accumulate unwanted bacteria. It

suggests that "a sufficient number of dispensers and receptacles should be provided near to each washing facility" and that "care should be taken that these receptacles for used paper towels are regularly emptied" (ibid: 7).

The mental outlook and physical behaviour of workers are trained by and for the programs that are implemented within a plant. Several members of management discussed the importance of influencing the mindset of workers. In one company, the same production line is used for both CSD's and water and a regulatory manager describes the importance of developing a new perception of water as compared to the perception workers might have outside of the plant:

> *That is one of the difficulties we have, because we produce RiverRock on, what we would call CSD lines, carbonated soft drink lines. So, because Coca-Cola and the other products would be a lot more robust, obviously the hygiene standards don't need to be as high, but when it comes to the water, you're nearly down at the sort of surgical type environment. So, because we produce on the same lines, the likes of the 500 mil would be producing on line 2, as we would call it, so before we produce RiverRock, there's an 8 hour clean. So, there's different hygiene standards for running water, as opposed to running CSD's. That is one of the difficult things, probably five, six years ago, was trying to get the workers' mindsets to change, because the perception was, it's only water, and you can get it out of your tap, and it's easy, it's only getting water and putting it into a bottle.* **GS Quality Supervisor**

The activities involved in CIP procedures are similar to other methods of cleaning in everyday life, which "are positively re-ordering our environment making it conform to an idea" (Douglas, 2002: 3). The activities within the bottled water plant exercise a desire to keep the natural mineral water status of a plant, or the idea of a boundary between the water and certain other entities intact. Workers involved in CIP procedures are trained to perform the actions as routine, although one regulatory supervisor didn't believe the threat of contamination is on the minds of the workers when they are performing those actions:

Washing of the lines, or CIP'ing as we call it, is protection against contamination. So, of course, protection against contamination is the main focus here. Now, putting it in words, and saying, this is probably clarifying it a bit more. If you went down and asked a production operator, well why do they wash the lines? He may not tell you it's to prevent contamination. He might just say, oh it's to make sure that the line is clean before I put water through it. It means the same thing. **PM, Quality Assurance Manager**

9.5 Conclusion

In his criticism of the current constraints placed on discourses of the environment, Kidner states:

> All reality and all debate, then, must exist within the hegemonic sphere of meaning defined by industrialism; and industrialism has indeed "consumed and lost its other". What has happened here is that since we have lost touch with any frame broader than that defined by our language and our social "reality," anything beyond this "reality" will necessarily seem unreal, invalid, or nonexistent. All recognition of radical difference, all recognition of mystery, all ability to judge our own lifestyles by external criteria have disappeared; and the human industrialist project floats free within an ethical and ontological vacuum (Kidner, 2000: 354).

The conclusion that water, aquifers and surrounding environments "have been lost" by the bottled water industry is a mistaken one. An examination of the practices at a bottled water plant reveals that nonhuman entities are anything but "unreal, invalid or nonexistent". The practices that are integrated into the design and production processes of a bottled water plant are created to work against very real, valid and existing threats that are known to threaten the regulatory order of the plant.

Adorno (2000a: 116) believed that when the rationalization of culture opens its doors to nature, it "completely absorbs it, and eliminates with difference the principle of culture". The examination of the bottled water plant shows that there are strategies

that continually attempt to eliminate *dissent*, but there seems to be an awareness that plant management will never really be able to eliminate difference. Since nonhuman entities, like human entities, are also able to threaten the order with agency, they can appear alien and often occupy "the role of absolute 'Other'" (Cook, 2007: 58). It is for this reason that surveillance and management systems are employed within and around a plant. These systems are implemented to establish an ordered pattern of strictly controlled production processes that work against the threat of contamination or disorder. This makes the agency of water both powerful and potentially dangerous to a bottled water plant:

> Granted that disorder spoils pattern, it also provides the material of pattern. Order implies restriction; from all possible materials, a limited selection has been made and from all possible relations a limited set has been used. So disorder by implication is unlimited, no pattern has been realized in it, but its potential for patterning is indefinite. This is why, though we seek to create order, we do not simply condemn disorder. We recognize that it is destructive to existing patterns; also that it has potentiality. It symbolizes both danger and power (Douglas, 2002: 117).

Cook (2007: 57) suggests that to discover the other possible interactions with and understandings of nonhuman entities, "it is necessary to reflect thoroughly on our conceptual and practical engagement with the objects that we have deemed natural". She notes (ibid: 57) that Adorno has claimed that the engagement with nonhuman entities (nature) "has been largely antagonistic and hostile because it is motivated by fear of nature". An examination of the attitudes towards water within the Irish bottled water industry reveals widespread worry and concern about the capabilities of water, while at the same time showing the drive to control water and make it submissive to the objectives of the bottled water plant.

Chapter 10: Overview and Conclusion

> "You want to *live* 'according to nature'? O you noble Stoics, what fraudulent words! Think of a being such as nature is, prodigal beyond measure, indifferent beyond measure, without aims or intentions, without mercy or justice, at once fruitful and barren and uncertain; think of indifference itself as a power – how *could* you live according to such indifference? To live – is that not precisely wanting to be other than this nature? Is living not valuating, preferring being unjust, being limited, wanting to be different? And even if your imperative 'live according to nature' meant at bottom the same thing as 'live according to life' – how could you *not* do that?" (Nietzsche, 1989: 39)

10.1 Introduction

This dissertation provided a framework for interpreting the recent fast-paced development of the Irish bottled water industry. It employed Theodor Adorno's constellation approach along with other theoretical concepts to provide a sociological interpretation of the various processes and practices involved in the marketing, regulation and production of bottled water in Ireland. It developed a theoretical perspective that incorporated "the work" of nonhuman actants, and it therefore defined bottled water as an outcome produced by the interactions of both human and nonhuman actants.

Applying Adorno's advice to his own work, this thesis was designed to revise, or disturb, the philosophical framework he proposed:

> Thus, it is not *praxis* but rather a negative philosophy or dialectics which alone can break through and resist the 'universally fungible' or 'totally administered' world and produce - in its negation of that world - moments of hope. As Adorno frequently reminds us, philosophical insight should not comfort but *disturb;* 'the splinter in your eye is the best magnifying glass' (cited in Jay, 1973, p.277).

10.2 Water as the Other

One component in Adorno's approach to the environment is the role of history. The influence of theorists such as Marx, Lukács and Benjamin is evident early in his work, beginning with Adorno's discussion of the interplay between nature and history in his essay, "The Idea of Natural-History". Hammer (2005: 179) argues that Adorno does not propose a "progressively unfolding History in singular as focal points for social struggle" and instead Adorno replaces this approach "with ciphers of reconfigured political spaces coming from testimonies that are scarred by the horrors of history".

Adorno's "reconfigured political spheres" can be understood in both material and discursive formations. Its use of historical narratives within his theorising about nature falls into the danger of assuming far too much about an "original nature". He relies upon loaded language such as "scarring" and the thought that interactions between society and nature are either "domineering" or "imitative", presents a situation which insists on a sharp divide between the two (Kelley, 2004). Adorno therefore begins his theoretical framework from a fixed starting point, (i.e. "The Idea of Natural-History"; *Dialectic of Enlightenment*), and doesn't adequately describe how each of these spheres are contingent on both physical and social interactions involving both human and non human actants.

Furthermore, beginning with an artificial split between the "natural" and the "historical"[1] was Adorno's strategy to demonstrate how the two are entwined, but his suggested "reconciliations" of the two are not entirely clear. Similar to Benjamin's search for moments where nature exists outside the grip of an administered culture, Adorno states:

> Only in the irrationality of civilization itself, in the nooks and crannies of the cities, to which the walls, towers and bastions of the zoos wedged among them are merely an addition, can nature be conserved. The rationalization of culture, in opening its doors to nature, thereby completely absorbs it, and

[1] As explained earlier, by "historical", Adorno means the social, or a historical collection of social practices.

> eliminates with difference the principle of culture, the possibility of reconciliation (Adorno, 2000: 116).

The aim to conserve "a nature" is a questionable goal for social theory. While various forms of human action within and with a physical environment can be assessed in different ways, it seems dubious to argue that all "human action represents an alien intervention in natural forces, or that to transform a landscape is to rob it of its authentic character and turn it into something unnatural or 'artificial'" (Vogel, 2003: 167). Kidner's criticizes not only the division of society and nature within the industrialist discourse of the environment, but the way in which nature is separated and recognised:

> In effect, we have created a solipsistic reality which allows us to recognise the natural world mainly to the extent that it accords with our needs and assumptions – as an other, that is, which is defined by the way it complements these needs rather than by our own awareness of its own structures, values and rights (Kidner, 2000: 355).

Cook (2007: 57) believes that Adorno did not seek to "demonize nature" in the way that the industrial discourse and others do. Cook (ibid: 57) also believes that Adorno did not aim to "deify it" like the Stoics that Nietzsche criticized. Quoting from Adorno in *Negative Dialectics*, she maintains that Adorno:

> Refused to place the object – natural or otherwise – 'on the orphaned royal throne once occupied by the subject' precisely because he recognized that this would turn the object into nothing but 'an idol [*Götze*]' …Adorno insisted that the 'purpose of critical thought is to abolish the hierarchy' between subject and object, not to reverse Kant's 'Copernican turn,' or to bless what has heretofore been worst cursed (ibid: 57).

Applying this perspective to the focus of this thesis, the water within a company's aquifer would not be viewed as a passive object to dominate, nor would it be seen as an idol to worship. This thesis has attempted to revise the composition of negative dialectics to incorporate the translation process, therefore broadening the focus of

mediations between subject and object. This approach therefore recognises the water and other nonhuman entities involved in the bottled water industry as actants themselves and also critically assesses the processes and entities involved within the production of bottled water. It therefore situates human praxis alongside the agency of nonhuman entities and does not maintain starting points for either human or nonhuman actors. This would avoid the urge to classify interactions with water as either natural or unnatural:

> Our artifacts are natural, every one of them, not (just) because we are natural but because they could not exist without that gap, because for us to act in the world – which after all is all we do! – indeed requires it: because, finally, *nothing we do could be done without nature* (Vogel, 2003: 164).

This view would move away from the one espoused by those who insist on the separation of nature and society. This includes the avoidance of separate starting points and the avoidance of separated outcomes. This perspective would be contrary to the views that many environmentalists and supporters of the modern project would hold:

> To begin with, nature as McKibben and many environmentalists think of it in its healthy condition is characterized by its independence. It is unaffected by humans. This view sees the arena of reality just as the modern project sees it except that the environmentalists cheer the opponent of the modern attempt at domination. Whereas the proponents of the modern project used to reproach nature for its recalcitrance, the environmentalists had been hoping for its invincibility, and seeing their favourite threatened with defeat, they want to restore at least its independence (Borgman, 1995: 35).

The approach undertaken throughout this thesis argues that a series of interactions between social practices and the physical environment connect to produce bottled water in Ireland. These interactions are each made up of a collaboration involving actants, practices and networks in which none of the participants or processes should be seen as fixed or unquestioned:

> We must insist on the need to transcend the binary formulations of nature and society and develop a new language that maintains the dialectic unity of the process of change as embodied in the thing itself. "Things" are hybrid or quasi objects (subjects and objects, material and discursive, natural and social) from the very beginning. By this I mean that the world is a process of perpetual metabolism in which social and natural processes combine in a historical-geographical production process of socio-nature, whose outcome (historical nature) embodies chemical, physical, social, economic, political and cultural processes in highly contradictory but inseparable manners (Swyngedouw, 1999 quoted in White, 2003: 60).

There were several processes and entities that were gathered together by using another of Adorno's theoretical concepts: the force-field. A variety of activities, from marketing the purity of bottled water to scientific attempts to define and use water to organising bottled water plants, were brought together and placed next to one another to emphasise the importance of praxis throughout the thesis.

> Parataxis, we can now see, is the basis of configuration (constellation); the unity of the whole is composed of the dissociations between the discrete parts as well as their associations. In other words, it is the negation of continuity that marks the edges of the parts, rendering them discrete. The space between these larger parts is analogous, on a structural level, to the almost inconspicuous blank spots filled by the indistinctness of particles that have lost their logical function (Nicholsen, 1997a: 83-84).

These examples were interpreted and juxtaposed to emphasise the many different, and at times contradictory, practices that are brought together to produce and define bottled water. It was through both Adorno's constellation and Latour's collective that this study attempted to show what Benjamin meant when he labelled the object as both reified and petrified, while showed it to be both "alive" and working as an "actant". The incorporation of processes of translation within the model of negative dialectics demonstrates that the outcomes of translation are part of what Nietzsche describes as "a monster of energy" and a "play of forces and waves of forces":

> And do you know what 'the world' is to me? Shall I show it to you in my mirror? This world: a monster of energy, without beginning, without end; a firm, iron magnitude of force that does not grow bigger or smaller, that does not expend itself but only transforms itself; as a whole, of unalterable size, a household without expenses or losses, but likewise without increase or income; enclosed by "nothingness" as by a boundary; not something blurry or wasted, not something endlessly extended, but set in a definite space as a definite force, and not a space that might be "empty" here or there, but rather a force throughout, as a play of forces and waves of forces, at the same time one and many, increasing here and at the same time decreasing there..." (Nietzsche, 1968: 550).

By avoiding the need to define the divide of what is social and what is natural, or what is artificial and what is natural, interactions involving human and nonhuman entities can then be assessed in a variety of ways. Borgman (1995) argues that today the divide can be seen between the real and the hyperreal. An example of this approach could view the water in an Irish aquifer as possessing "a commanding presence and a telling continuity with the surrounding world", while the water in Irish bottled water "provides a disposable experience that is discontinuous with its environment" (ibid: 38). This hints at a loss of aura in the consumption of botted water, which is discussed in the next section.

10.3 Aura and Commodified Water

Following Benjamin's essay "The Work of Art in the Age of Mechanical Production" (1999), Adorno provided his thoughts on the relationship between subject and object with reference to the concept of aura. Benjamin believed the aura of a work of art was lost through mechanical reproduction, as its place in time and space had become less relevant through the existence of multiple copies and no original. While Benjamin was optimistic that this would allow for the development of a politically communicative element to art, Adorno was far more sceptical.

This discussion provides useful insight into the communicative and expressive possibilities of bottled water or the presence or absence of "aura" with the bottled water product. Aura, according to Benjamin, "is a kind of container or casing, an exterior with an interior, an exterior or husk that creates the sense of distance in time and space, despite all closeness of presence. It signals, one might say, this illusion of distance in closeness" (Nicholsen, 1997a: 195). Mass copies of one type of product, all the same without any real original, leads bottled water to a communicative role without any aura.

This produces a situation that was earlier defined as *mise-en-scène* (Leiss et al, 2005), where water is meant to play a communicative role about the individual drinking the water. Consumers are trained to consider the type of water, what it says about them and what the marketing/science says about the water. The water's position in time and place is not an integral part of the experience. One bottle of water is no different to another bottle of water, so long as they are the same brand.

This consequence is one of the criticisms outlined by Adorno which argues "that nature has been negated to such a degree that what now appears natural is actually social" (Cook, 2006: 721). The physical environment has been thoroughly branded and exists as "an object through which discourses are communicated" (Leiss et al, 2005). These discourses are constructed by both marketing and regulation, with marketing playing the most influential role in the communications of consumers.

> In the eternal repetition of the same, the sheer self-presence of the commodity screens both nature and history: the advertisement on the billboard represents, and ultimately transforms, its object into an image, an exchangeable item, a signifier, for which there is no origin or narrative horizon of significance (Hammer, 2005: 75-6).

As discussed in Chapter 5, bottled water is often directly or indirectly defined through its difference to tap water. The public tap water runs though a system that does not have a specific origin and does not place any claim to a locality. Bottled water is able to fill this gap, or this lack of aura, by utilizing the communicative possibilities of an

object that has no origin, or specific position in time or place. It does this through the constant barrage of advertisements and marketing slogans.

This is the "absolute commodity" that is similar to what Adorno describes as recent developments in art. In many social contexts, water is now "a social product that has totally and without remainder erased its own use value and become identical only with itself" and it now "becomes a pure fetish; enacting a kind of vicious parody of the emptiness of late-modern exchange relations, it purports to have no function or purpose, no 'being-for-society,' an entity that is wholly self-enclosed and self-referential, in short the autonomous monad that Adorno seeks to describe it as" (ibid: 135).

Chapters 5 and 6 examined how marketing agencies and marketers work to create discourses that are meant to define the water in such a way as to make it appropriate to the contemporary trends and attitudes of consumer society in Ireland. This began first with the justification and legitimation of the idea of bottled water, and this was then followed with the campaigns that attempt to differentiate waters through various branding techniques. The research has demonstrated that marketers dismiss a wide spectrum of activities and stories behind each water source and choose to produce marketing messages that only minimally differ from one another. The result is a commodified view of not only the water, but also the effects and influences that commodified water can have in other areas of Irish society.

10.4 Nonidentity and Organised Irresponsibility

Consideration of water within the bottled water industry should acknowledge what Adorno labels the "non-identical", or that which remains outside of a concept's definition. The introductory chapter of the thesis described how water is defined in various economic terms and, in Chapter 7, several scientific definitions of water were examined in different contexts. Each of these examples demonstrates how the definition of water is influenced by a number of social practices and situations, and how a number of social practices and situations are influenced by the accepted definition of water.

Adorno's notion of the non-identical is demonstrated in the understanding of the water that is used for bottled water. What Adorno refers to by the non-identical "difference and heterogeneity, otherness, the qualitative, the radically new, the corporeal" (Hammer, 2005: 31), is ignored through the process of commodification and becomes subordinate to the water's exchange value. Vogel acknowledges that concepts and even labour practices cannot ever fully "grasp" the world:

> To say that the world cannot be grasped as a whole, or cannot be grasped by pure thought, is not to say that it is not graspable at all but rather simply that "grasping" is primarily a matter of practice and not of theory. In our practices, by which I mean first of all our laboring practices, we do grasp the world. We do so not by getting some correct "view" of it into our "minds" but by transforming it – a transformation, to be sure, that is never complete, never infallible, and certainly never easy (Vogel, 1996: 95).

This observation does not adequately consider the context within which the "grasping" is taking place. For example, the perception of water throughout the marketing, regulatory and industrial sectors are all driven towards the goal of producing a commodified product. The reification produced by the practices of the bottled water industry is created as a result of these processes, which does not "emphasize that a relation among men appears as a relation among things", but instead it emphasizes "that a relation among men appears in the form of a property of a thing" (Rose, 1994: 158).

All other considerations of water that are not useful towards this end are removed from the interpretation and definition of water. Despite the removal of these considerations, the water is presented within a system that appears to provide a total and universal definition of water. To say that the "transformation" or, put differently, "alignment" of the water is not perfect, misses larger implications of the bottled water industry.

Vogel's aim is to highlight the material practices that construct the world and to counter the reification that both he and Lukács identify in the modern world. Vogel

(1996: 96) wants to switch the focus to practice and claims that "practice already contains within itself the moment of what Adorno calls nonidentity", since there are moments of resistance, difficulties and so on. Not only do practices encounter difficulties, but the outcomes of practices that follow certain definitions have significant influences on both social and physical environments. This is clearly evident in the example of regulatory practices associated with the bottled water industry.

The examination of bottled water regulation provided an insight into scientific practices and into scientific definitions of water. The regulatory agency most responsible for regulating bottled water was primarily created for economic and trade purposes. From this specific social location, it has set out processes to certify and audit natural mineral water in Ireland through definitions and understandings that purport to be universal. The agencies involved in the regulatory process will also permit variations from the standard that is established for public drinking water if these variations are a result of the "unique chemical fingerprint" of a certified natural mineral water.

Bottled water regulation is therefore most focused on defining a specific type of product and then governing its path to the market. It will examine production (the type of water, the maintenance of the plant, etc.), distribution (storage, packaging, etc), and consumption (adverse health effects), but it does not look beyond this process. It is not concerned with what happens after this process is complete and regulatory actors did not believe it was their responsibility:

> *We're not obliged to do that* **[post-consumption regulation]**. *That's a job for somebody else. Our job is to see that food that is safe is placed on the market, and that the higher standards of food safety apply. But, we don't get drawn into the wider debate on food about, food miles, or the amount of packaging, or how all that is all to cope, etc. So, I mean, I might have a personal opinion about that, but, it's not our organisation's job to do that. That goes elsewhere.* **RE, FSAI Representative**

Some companies responded to questions about the post-consumption process by stating they are already part of a regulation process that is concerned with recycling, such as the Green Dot system (TO New Product Development Manager), and others stated that they had an "environmental guy" on site that was responsible for assessing environmental impact (GS Quality Supervisor). Some recycling programmes, such as the packer pays regulations, attempt to put more responsibility for the post-consumption process on the producers that are making the bottled water product and this is evident in Northern Ireland (GS Quality Supervisor).

Some plant managers (ML Plant Manager) acknowledged the non-sustainable aspects of the current bottled water market and anticipated changes to occur in the future. However, it is significant that there is far more attention paid to getting the product to the market than to other activities influenced by the production of bottled water. Regulation oversees the selection, extraction and distribution of the water, but does not focus on more long term consequences of the consumption process.

In this sense, regulation is protecting consumers from any problems associated with the water that is purchased from the market. However, it also focuses on the smooth path from the bottled water plant to the individual consumer. Once this transaction takes place, science becomes far less interested in regulating the impact that bottled water has on the surrounding environment.

The consequence of bottled water regulation does not merely "act" to place a product on the market for consumers. Its influence stretches beyond the delivery of a product to the consumer and it is this influence that is not covered by regulatory actors and directives. Vogel (2003: 163) claims that there were will always be a "gap" in every artifact between the intention behind and the consequences of its construction[2]. The creation of bottled water regulation does leave gaps, but these gaps are not all entirely unintended. The bottled water industry today produces more than 1.5 million tons of plastic and transports water across vast distances around the world (Clarke, 2003: 56-65). The "gap" within bottled water regulation, which does not address issues

[2] Vogel (2003: 163) states that "a gap that is ineliminable and indeed constitutive of what it is to construct something: and we could call this gap "nature" – the nature in every artifact".

relating to the quality of a consumer's physical environment, is planned, as it amounts to the externalisation of cost to the consumer from the private sector.

Understanding the nonidentical as what is excluded from the outcome of a socio-natural hybrid moves away from viewing nature as something that exists independent of social activity. It is not just that "dominated nature becomes nonidentity", due to what is squandered or eliminated in the object by identity thinking (Bernstein, 2001: 190). Instead, this theoretical framework looks at what is squandered or eliminated in the *outcome* of collaborations between human and nonhuman entities. This method does not insist on a divide between nature and society and still counters reification, since "the problem with reification is not that identity is achieved but that the nonidentical is repressed (Zuiderrart, 1991: 166).

10.5 Mimesis and Agency

In *Negative Dialectics*, Adorno (1990:33) advises that "we are not to philosophise about concrete things; we are to philosophise, rather, out of these things". It is here that both Adorno and Latour start much of their theorising, but with different motives and with different approaches. However, the idea of a constellation framework and the concept of translation both suggest that agency plays a significant role within each theoretical perspective.

The role of practice is incorporated within Adorno's theoretical account of nature, as he wrote that the "mediation of the object means that it must not be statically, dogmatically hypostatized but can be known only as it entwines with subjectivity" (Adorno, 1990:186). In *Dialectic of Enlightenment*, Adorno and Horkheimer argue that man thought of himself as part of nature and acknowledged this integration through a series of practices and rituals. Furthermore, they state that "mimesis imitates the environment" and that, for mimesis, "the outside world is a model which the inner world must try to conform to: the alien must become familiar" (1997: 187). The idea that an interaction between an individual and "nature", either first or second nature, can influence the subject is possibly taken from Benjamin, who believed "the

child imitates not only shopkeeper or teacher, but windmill and railroad train as well" (Benjamin quoted in Lee, 2005: 109).

Chapter 9 examined the various strategies devised and collaborations formed throughout the material interactions within and around bottled water plants. The interaction between the water and the plant is first determined by a series of values and considerations ranging from the protection of the source to accessibility to scientific evaluations of the water. The plant is then designed and managed to follow the philosophies set out by European and national legislation, with particular concern for any interference between both external and internal activities and the water contained in the aquifer. This concern is driven by the company's acknowledgement of the various capabilities associated with water's agency. Throughout the process, workers are conditioned to act and behave in ways that are part of the production and regulation process. During this process, the mimesis, or the "sensuously receptive, expressive, and communicative mode of conduct" among workers and among other nonhuman entities, is strictly contained (Wellmer quoted in Zuiderrart, 1991: 282).

Adorno's approach is much different than Latour's (2004: 236) focus on "quasi-objects", which he prefers to "words and worlds". Adorno wants to emphasize what is excluded from the creation of concepts and ideas, or "words", whereas Latour focuses on the physical agency of things and objects. Both of these approaches can be incorporated into a theoretical discussion of bottled water. Bottled water, like Latour's (ibid) explanation of a space shuttle, incorporates many knowledges and actions and it too represents the gathering of many different physical components. This includes the geological structure of aquifers, the water located within each aquifer and the machinery and workers situated within bottled water plants. Latour's (ibid: 235) description of the physical assemblage of thing into an object likens the process to a participation in a gathering that involves many folds.

Latour emphasises how physical things can move into objects, which are reliant on networks of social action. Latour's (ibid: 236) recent argument is that "things have become things again, objects have reentered the arena, the Thing, in which they have to be gathered first in order to exist later as what stands apart". The movements and

actions between the water and plant during the production process are also strictly controlled as the water is persuaded to act in a very controlled way during production processes. Plant machinery and technology are designed to restrict water's ability to be a solvent and also to remove sediments from the water. Throughout this process, the opportunity for workers or machinery to contaminate the water is strictly monitored and tightly controlled.

10.6 Conclusion

The bottled water industry can be viewed as a mutually constitutive outcome of Irish society and the physical environment. Bottled water aids the reproduction of certain practices and beliefs in Irish society, such as reinforcing faith in industry-influenced science and the commodification of water, just as certain practices and beliefs in Irish society are involved in the production of bottled water, such as the control of workers and the implied division of society and nature. Referring back to Nietzsche's thought, "Adorno would say human beings already are natural, all too natural, and nature is unavoidably human, all too human" (Zuiderrart, 1991: 165).

Latour (2002) addresses recent conflicts by arguing that the relevant question should no longer be if something is or is not constructed, and suggests that the questions should be more about how things are manufactured and how the quality of their construction is verified. The answers to the questions posed by Latour must address how "advanced capitalist society is governed by a principle of exchange and operates by way of exploitation and class conflict" (Zuiderrart, 2001: 84). We must acknowledge that "the world is active, but not merely in the sense of mechanistic laws of nature. The world is animate and active. That is, we live in a world peopled by non human actors" (DeLuca, 2001: 311). Both human and nonhuman actants engage in many forms of constructing socio-natural outcomes, and these forms of construction are today greatly under the influence of advanced capitalist society. It is at this point where negotiations regarding theory and politics should begin, with discussions that address the ways the socio-natural outcomes should be constructed. By incorporating Latour's focus on the processes of construction within a

constellational framework, this thesis aimed to create a sociological perspective that provides a contribution to the negotiations that should now be commenced.

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