Monica Pivetti

Natural and Unnatural:
Animal welfare and rights activists' representations of animals and animal biotechnology in Italy.



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CONTENTS

ACKNOWLEDGEMENTS III

INTRODUCTION 1

Theoretical coordinates of the study 3
Distinctive qualities of the study 4
The context of the research 5

1. THE SOCIAL REPRESENTATIONS THEORY (SRT) 7

1.1 The functions of social representations 9
1.2 How social representations are generated: anchoring and objectifying 10
1.3 Some criticisms of the SRT 11
1.4 Attitudes, social representations and ideology 13
1.5 Social representations and social practices 14
1.6 The school of Geneva and the organizing principles 15
1.7 Social positioning, social identity and self-definition 17
1.8 The concept of themata 18
1.9 Collective symbolic coping 19
1.10 Social representations and animals 20

2. THE HUMAN-ANIMAL RELATIONSHIP 23

2.1 Culture and nature 23
2.2 Anthropocentrism and ecocentrism 26
2.3 Some sociological views on the human-animal relationship 27
2.4 Wild and domesticated animals 31
2.5 Companion animals and pet-therapy 33
2.6 Views of animals 35
2.7 Social construction of other animals 36

3. ANIMAL WELFARE AND RIGHTS MOVEMENT 38

3.1 Social sciences studies on attitudes towards animals..... 40
3.1.1 Portrait of animal rights activist..... 40
3.1.2 Gender 43
3.1.3 Personality traits 44
3.1.4 Empathy..... 44
3.1.5 Education and urban residence 45
3.1.6 Pet-keeping 45
3.1.7 Religious affiliation 46
3.1.8 Animal attributes 46
3.1.9 Attitudes toward animal experimentation..... 47

4. ANIMAL BIOTECHNOLOGY 49

4.1 Definition..... 49
4.2 Cloning 50
4.3 Purposes..... 51
4.4 Some data 51
4.5 Some concerns..... 52
4.6 Attitudes and social representations of animal biotechnology 52
4.6.1 Animal cloning 54
4.6.2 Xeno-transplantation..... 55
4.7 Trust in science and in sources of information 55
4.8 Public Understanding of Science (PUS) and the deficit model 56
4.9 The Italian case..... 57

5. EUROPEAN LEGISLATION ON ANIMAL EXPERIMENTATION: THE ITALIAN AND FINNISH CASE 58

5.1 Summary..... 58
5.2 Introduction 58
5.3 The Declaration of Helsinki..... 59
5.4 International guiding principles for biomedical research involving animals 60
5.5 Compendium of European legislation on animal experimentation 61
5.5.1 The Council of Europe..... 61
5.6 The European Union..... 65
5.6.1 The Amsterdam Treaty 65
5.6.2 Relevant legal texts..... 65

5.7 Genetically modified animals (GMA) 69
5.8 The European Centre for the Validation of Alternative Methods (ECVAM) 70
5.9 The Italian Legislation 71
5.10 Finnish Legislation 74
5. 11 Animal research in psychology 76

6. "WE LANDED ON THE MOON, MOSQUITOES DIDN'T": QUALITATIVE DATA ON ANIMAL TESTING 78

6.1 Abstract 78
6.2 Science-animal relationship 79
6.3 European Community Legislation: Italian and Finnish examples 79
6.3.1 Finnish Legislation 80
6.3.2 Italian Legislation 81
6.4 Philosophical and ethical background opposing animal experimentation 82
6.5 The semiotic anthropocentric model 83
6.6 Public attitudes towards animal experimentation 84
6.7 Social representations theory 85
6.8 Method 86
6.8.1 The focus group technique 87
6.8.2 Focus group reliability and validity 87
6.8.3 The research 88
6.8.4 Recruitment 88
6.8.5 Moderator's and observer's role 89
6.8.6 Guideline questions 89
6.8.7 Final questionnaire 90
6.8.8 Debriefing phase 90
6.9 Results 90
6.9.1 Prospective doctors´ positions 91
6.9.2 Animal right activists´ positions 91
6.9.3 Laypeople positions 92
6.9.4 Attitude toward science 93
6.9.5 Anthropocentric attitudes 93
6.9.6 Church positions 94
6.9.7 Final questionnaire 94
6.9.8 Some remarks about the method 95
6.10 Discussion 95

7. ANIMAL RIGHTS ACTIVISTS' REPRESENTATIONS OF ANIMALS AND ANIMAL RIGHTS: AN EXPLORATORY STUDY 98

7.1 Abstract 98
7.2 The animal rights movement 99
7.3 The social representation theory 100
7.4 Method 102
7.5 Results 105
7.5.1 The love/pain thema 105
7.5.2 Structure of the representational field 107
7.5.2.1 Diet 109
7.5.2.2 Voluntary working 111
7.5.2.3 The Universal Declaration of Animal Rights (UDAR) 112
7.6 Discussion 113

8. STUDY 1: FREE-ASSOCIATION TASK 117

8.1 Representation of animals 118
8.1.1 Animal welfare and rights activists 119
8.1.1.1 Method and participants 119
8.1.1.2 Results and interpretation 124
Factor 128
8.1.2 University students 133
8.1.2.1 Method and participants 133
8.1.2.2 Results and interpretation 134
8.1.3 Comparison between the representational fields of animal activists and students 142
8.2 Representation of animal biotechnology 143
8.2.1 Animal welfare and rights activists 144
8.2.1.1 Methods and participants 144
8.2.1.2 Results 145
8.2.2 University students 152
8.2.2.1 Method and participants 152
8.2.2.2 Results and interpretation 153
8.2.3 Comparison between the representational fields of the activists and the students about animal biotechnology 160
8.3 Methodological concerns 161
8.4 Discussion 161
8.4.1 Social representations of animals 161
8.4.2 Social representations of animal biotechnology 164

8.4.2.1 Representation of science 166

9. STUDY 2: INTERVIEW AND FOCUS GROUP MATERIAL 168

9.1 Interview material 170
9.1.1 Method 170
9.1.2 Participants 170
9.1.3 Analysis of the material 173
9.1.4 Results 174
9.1.4.1 Involvement into the movement and reasons behind their involvement 174
9.1.4.2 Definitions of animal: the victim, the source of wellbeing and the living being 178
9.1.4.3 Genetically modified animals (GMA) and conception of science 181
9.1.5 Reliability and validity of the data 187
9.2 Focus group material 187
9.2.1 Method 188
9.2.2 Participants 190
9.2.3 Analysis of the material 192
9.2.4 Results 193
9.2.4.1 Involvement into the movement and reasons behind their involvement 193
9.2.4.2 Voluntary work 199
9.2.4.3 Definition of animals: the weak, the commitment and the living being 205
9.2.4.4 Genetically Modified Animals (GMA) and conception of science 211
9.2.5 Reliability and validity of the data 220
9.3 Discussion 221
9.3.1 Involvement into the movement and reasons behind their involvement 221
9.3.2 Fundamentalist view and vegetarianism 223
9.3.3 Activist's representation of animal 223
9.3.4 Activists' self-definition 225
9.3.4.1 The voluntary work and the construction of activist's self definition 225
9.3.5 Representation of genetically modified animals 226
9.3.5.1 Representation of xeno-transplantation 228
9.3.5.2 Animal biotechnology and religion 228
10.3.5.3 Attitude toward science 229
9.3.6 Public understanding of science (PUS) 229
9.4 Methodological concerns 230

10. FINAL DISCUSSION 232

10.1 The study in a nutshell 232
10.2 Representation of animals 235
10.3 Activists´ self definition 236
10.4 Representation of animal biotechnology 236
10.5 Attitude toward science 238
10.6 Public Understanding of Science (PUS) and SRT 238
10.7 Critical insight 239

GLOSSARY ON ANIMAL BIOTECHNOLOGY 240

GLOSSARY ON EUROPEAN LEGISLATION 244

REFERENCES 245

Web-pages 270
Newspaper articles 270
APPENDIX 1 271
APPENDIX 2 272
APPENDIX 3 274
APPENDIX 4 277
APPENDIX 5 278
APPENDIX 6 283
APPENDIX 7 284
APPENDIX 8 287
APPENDIX 9 288
APPENDIX 10 293
APPENDIX 11 294
APPENDIX 12 295
APPENDIX 13 296
APPENDIX 14 300
APPENDIX 15 301
APPENDIX 16 303
APPENDIX 17 306

TABLES & FIGURES

Table 1. The history of domesticated animals 32

Table 2. Domesticated species.....32

Table 3. Sample description and relevant remarks 88

Table 4. Bauer and Gaskell's classification of mode and medium of representations (1999).....118

Table 5. Activists' group membership.....122

Table 6. Description of the activist sample.....122

Table 7. Cross tabulation of group membership and religious affiliation for the activisits.....123

Table 8. Cross tabulation of group membership and diet.....124

Table 9. Characteristics of the original and modified dictionaries...125

Table 10. Most frequent words.....126

Table 11. Words associated with "animal" by animal welfare and rights activists 128

Table 12. Sample description 134

Table 13. Characteristics of the original and modified dictionaries...134

Table 14. Most frequent words.....136

Table 15. Words associated with "animal" by animal welfare and rights activists 137

Table 16. Characteristics of the original and modified dictionaries...145

Table 17. Most frequent words.....146

Table 18. Words associated with "genetically modified animal" by animal welfare and rights activists.....147

Table 19. Description of the sample of student for the prompt-word "GMA" 152

Table 20. Characteristics of the original and modified dictionaries...153

Table 21. Most frequent words 154

Table 22. Words associated with "genetically modified animal" by animal welfare and rights activists 155

Table 23. Modes and mediums of representations following Bauer and Gaskell (1999) 169

Table 24. Interviewees´ membership in animal rights and welfare associations. 171

Table 25. Description of the sample..... 172

Table 26. Content analysis themes for the interview material: reasons behind the commitment to the animal cause and definitions of animal. 180

Table 27. Content analysis themes for the interview material: GMA 186

Table 28. Focus group participants membership to animal rights and welfare associations..... 190

Table 29. Description of the sample..... 191

Table 30. Content analysis themes for the focus group material: Involvement into the movement..... 198

Table 31. Content analysis themes for the focus group material: voluntary work 204

Table 32. Content analysis themes for the focus group material: definition of animal 210

Table 33. Content analysis themes for the focus group material: GMA.. 219

Table 34. Italian list of the words produced by the animal activists for the prompt word "animal"..... 274

Table 35. CA for the associations to the word "animal" by the animal welfare and activists: words of the clusters 277

Table 36. Italian list of the words produced by the students for the prompt word "animal"..... 278

Table 37. CA for the associations to the word "animal" by the students: words of the clusters..... 283

Table 38. Italian list of the words produced by the animal activists for the prompt word "genetically modified animal" 284

Table 39. CA for the associations to the word "genetically modified animal" by the activists: words of the clusters 287

Table 40. Italian list of the words produced by the students for the prompt word "genetically modified animal" 288

Table 41. CA for the associations to the word "genetically modified animal" by the students: words of the clusters 293

Figure 1. Some data on protest events in U.S., Italy and Switzerland (Giugni, 2001) 6

Figure 2. The semiotic triangle (Moscovici, 1984) 8

Figure 3. Concept map of the love/pain themata 107

Figure 4. Concept map of the representational field of LAV members and CSA/ENPA members 109

Figure 5. Concept map of the theme: diet 111

Figure 6. Concept map of the theme: voluntary working 112

Figure 7. Concept map of the theme: UDAR 113

Figure 8. Map of Modena district and locations of the dog, cat and wild animal shelters 121

Figure 9. Correspondence analysis on free associations to the word "animal" 130

Figure 10. Cluster analysis of word associations to "animal" by animal welfare and rights activists 132

Figure 11. Correspondence analysis on free associations to the word "animal" 139

Figure 12. Cluster analysis of words associated with "animal" by students 141

Figure 13. Correspondence analysis on free associations to the word "GMA" 149

Figure 14. Cluster analysis of words associated with "GMA" by activists 151

Figure 15. Correspondence analysis on free associations to the word "GMA" 157

Figure 16. Cluster analysis of words associated with "genetically modified animals" by students 159

Figure 17. Concept map of thematic analysis for interview material... 175

Figure 18. Concept map of thematic analysis for interview material: GMA 182

Figure 19. Participants´ diet crossed with their group membership 192

Figure 20. Concept map of thematic analysis for focus group material 194

Figure 21. Concept map of thematic analysis for focus group material: voluntary work 199

Figure 22. Concept map of thematic analysis for focus group material: definition of animal 205

Figure 23. Concept map of thematic analysis for focus group material: GMA 211

Figure 24. Genetic modification 243

INTRODUCTION

This study investigates the social representations of animals and animal biotechnology as shared by members of animal welfare and rights groups in Italy. The aim is to examine the belief systems behind the animal rights movement and to shed light on the construction of the meaning of animals and nature in modern society. The activists' and lay people's perception of animal biotechnology is explored in order to reveal the reasons behind the widespread opposition to such technology in Europe. The representation of animal biotechnology is discussed in the light of attitudes toward science and in the process of symbolic coping with new technologies.

In modern society, humans get in contact with animals in many ways on a daily basis. Since the morning, we experience an emotional relationship with our pets, running around our legs and asking for food. When taking a shower, our soap has probably been tested on animals for safety inquiry. When it comes to our breakfast, many of us define it as a "meat" meal, but some claim "meat" being a piece of a "dead animal". In many respects, humans are dependent on the exploitation of animals to meet their needs, i.e. food demands, drug safety testing, emotional companionship etc. (Mannucci, 1997).

On the other hand, since the 70s a growing moral concern about the use of animals for human benefit has arisen. Large opinion movements for animal welfare have affirmed individual animals' intrinsic value and rights, extending the scope of justice from humans to all sentient beings and putting into question the modern utilization of animals (Singer, 1975; Regan, 1983). In this book, those positions will be referred to as "animal

welfare and rights activism" in order to highlight the existence of two souls, a more "orthodox" and more "moderate" one, inside the movement.

Latest development in biotechnology have allowed for the genetic engineering of crops and animals in order to improve their desirable features and have posed new moral dilemmas about the human intervention on nature. A consistent pattern of surveys conducted among members of the European public showed that, of all the potential biotechnology application, those involving animals (i.e. the general use of animals in research and xenotransplantation, and the cloning of animals for biomedical purposes) were the lest supported ones (Gaskell et al, 2001).

Some argued that developments in biotechnology and genetics challenge some of the major dichotomies of modernity, such as the distinction between nature and society and the distinction between science and society. The advent of transgenic technology has added an entirely new dimension to the human-animal relationship as we now have the power to alter animals and mix species. Since science is able to interfere with the sacred natural order, nature becomes a product of society and in this way nature and society are no longer separate. Much of science today is driven by technology which in turn is drive by the market (Delanty, 2002; Rollin, 1995).

Living in modern society is virtually impossible without relying on animals in some ways. The cattle production industry involves millions of people in livestock production and produces a relevant economic deal. Scientific research extensively uses animals for basic medical research and for drug safety testing. On the other hand, individuals in post-modern societies establish deep attachments to animals as companions, primarily dog and cats (Plous, 1993).

The notions of "nature" and "animals" are culturally and historically specific and cannot be considered objective categories within which to organize the world (Kellert, 1993; Lawrence, 1994; Russel, 1995; Tapper, 1988). Moreover, these cultural constructions are bound up with language and discourse in the sense that discourse can be considered a

way of talking and writing about a social issue that both reflects and perpetuate the structuring of the issue (Rajecki, Rasmussen & Craft, 1993; Stibbe, 2001).

In addition to this, the way animals are socially constructed can determine the fate of animals in the sense that the implications of these constructions could lead to a preferred behaviour toward animals. At the individual level, it is known that negative attitudes to animals are associated with less humane behaviour towards them and vice versa (Hemsworth, 2003). At the societal level, changes in people's attitudes and opinions are usually the driving force behind improvements in animal-related legislation and public policy (Kirkwood & Hubrecht, 2001). In this sense, the investigation of the social construction of animals is crucial for the understanding of the reasons behind a certain treatment of animals.

We believe that belonging to the animal welfare and rights movement represents a lifestyle choice in the full sense of the term which is based on a social representation or a system of meanings, shared to a different extent within the movement. This hypothesis is supported by similar researches which have suggested that the animal rights movement was characterised by its own cosmology (Sutherland & Nash, 1994) and behaved in a quasi-religion fashion (Lowe, 2001).

Theoretical coordinates of the study

The social representations theory points on one hand to the individual structure of knowledge shared by members of a group enabling individuals to orient and give meaning to their environment, and on the other hand to social products of everyday interactions as influenced by media discourses (Moscovici, 1981). Social representations are beliefs systems deeply rooted in the cultural and historical context and strongly influenced by pre-existing myths, values or trope, shared by individuals' social memory.

After many calls for the use of different methods of investigation in order to fully understand the nature of social representations, we employed two of the most common methods used in this line of research: 1) free-associations techniques, 2) focus group and semi-structured interviews (Bauer & Gaskell, 1999; Jodelet, 1989; Sotirakopoulou & Breakwell, 1992; Vergès, 1987;). This way, the limitations of each method could be compensated with the advantages of another method.

Following the classification done by Wagner (1994), the investigation of the social representations of animals stands on the field of research called cultural imagination in that it explores the way individuals think about a long-standing issue such as human relationship with animals. On the other hand, the study of the belief system about animal biotechnology locates on the field of research of folk science in that it explores the popularization of a scientific idea. Notwithstanding the many weaknesses of the theory, we believe that the SRT offers a useful theoretical background for the study of social phenomena such as the way people construct new technologies.

Distinctive qualities of the study

Given that the debate over the use of animals for human benefit is growing and that the animal rights movement poses challenging questions to animal use in scientific research, psychological studies of animal rights activism could contribute to a better understanding and to attitudes of respect towards social groups holding different positions such as animal activists and laypeople. This study moves along this direction.

The Social Representations Theory (SRT) has never been used to investigate the belief system behind the animal rights movement and in this sense this study represents a novelty in the research topic of the human-animal relationship.

Therefore, while the preferred method of analysis of the psycho-sociological study of anchoring is the experimental one, in Chap.9 of this study we try to highlight how the anchoring process is linked to the

perception of relationships among social groups by means focus group material and content analysis method (Doise, 1992).

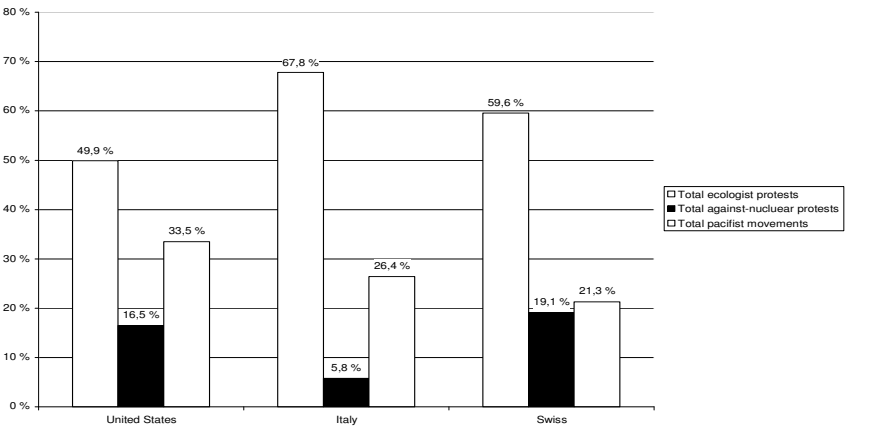
Moreover, Doise (1988) and Elejabarrieta (1994) suggested that the self-definition, that is the way individuals think about themselves, could be studied as the representation individuals construe of themselves on the basis of their social positioning or group membership. Those arguments are in line with those by Davies and Harré (1990) which maintained that during and through discursive practices the speaker and the hearer construe and negotiate reciprocally their selves. In Chapter 10, we argument that the analysis of the content of the communications between individuals become a key tool to disclosure the elements of the self-identity.

The so-called deficit model of Public Understanding of Science (PUS), which represents the public as lacking in scientific knowledge, has been utterly criticised and there is a need for more effective ways of hearing what people are saying about new technologies and genetics in particular. People are clearly not passive absorbers of consumers of the "new genetics". They apprehend innovation through what they already know, and produce new meanings and understanding which are not always predictable (Edwards, 2002). In this line, the social representations theory offers a useful theoretical framework for the study of the popularisation of science or the way in which the public get to know the innovations coming from developments in science and technology.

The context of the research

Recent data show that in the period 1975-1995, the largest proportion of protest events in Italy (67,8%), Swiss (59,6%) and USA (49,9%) concerned the ecologist movement. In Italy the ecologist movement focused on the protection of environment (26,4%) and of the animal rights (17,4%) (Giugni, 2001).

Figure 1. *Some data on protest events in U.S., Italy and Switzerland (Giugni, 2001)*



In Italy, the number of vegetarians has reached 3 million in October 2002 and it is likely that before the middle of the century they will be 30 million (Granello, 2002).

In 2002, a survey estimated 42 million of pets, living with about 8.5 million Italian families (IRISME-Il salvagente, 2002). Most of them were fishes (35%), birds (28,1%), cats (17,1%) and dogs (16,2%). The total expenditure for food, health care and other issues was about 7.500 millions of euro per year.

Some recent economic data show that in Italy the food production contributes for the 15,3% to the gross domestic product, mostly meat (24%), vegetables (15%) and milk (12%) (Agroqualitá, 2002). The Emilia-Romagna region is the most important region exporting meat (16,2%) as compared with other Italian regions (ISMEA, n.d.).

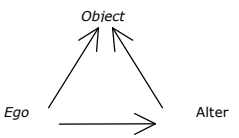
1. THE SOCIAL REPRESENTATIONS THEORY (SRT)

> *"Consider the following analogy: throwing a stone (genetic research) into a pond (public) creates ripples. We are more interested in the ripples (representation of genetics) and what they tell us about the invisible depths of the pond (local concerns and sensitivities), than the stone itself (theories of genetics)."*
> *Bauer and Gaskell, 1999, 166-167*

Among the different theories and constructs which systematically study the human interaction with the social environment, the Social Representations Theory (SRT) is a theory of "sets of beliefs, images, metaphors and symbols collectively shared in a group, community, society or culture" (Wagner, 1994, p.199). Social representations have a double nature. On one hand, social representations are seen as individual attributes or structures of knowledge, shared by members of a group. On the other hand, social representations are socially constructed as they emerge from the social interaction within groups and they are increasingly dominated by media communication (Wagner, 1994; Wagner & Kronberger, 2001). The role and importance of social representations emerges in the form of "common-sense knowledge" (Moscovici, 1981). When people interact through gossip, argue, discuss different issues, read newspapers, watch TV, they are building shared pictures of the world. In this sense, social representations are intrinsic to everyday conversation.

In line with the socio-constructionist approach (Berger & Luckmann, 1976), the SRT points to social phenomena as they are socially re-constructed by individuals (Palmonari, Rubini & Cavazza, 2002). The constructionist approach adds to the constructivist viewpoint in that the former focuses on particular constructions of the subject which are external and socially shared. Individuals do not react to a social phenomenon but to the shared image of the phenomenon itself (see Fig. 2).

Figure 2. *The semiotic triangle (Moscovici, 1984)*



The concept of social representation stems from the Durkheim's (1898) notion of collective representations, embracing many kind of intellectual form, grounded in a given community, homogeneously shared by all members (Farr, 1998). While Durkheim referred to almost invariable representations inculcated by an authority such as religious institutions, Moscovici (1988; 2000) criticized the static nature of collective representations and claimed that the contents of social representations are always in the making, shaped by exchange and interaction processes between individuals, groups and media. Social psychology should investigate the origins, the contents, the structures and the dynamics of social representations (Moscovici, 1984).

Developing his research activity in Paris, Moscovici has arranged a fertile field of work for young researchers, giving birth to some of the most relevant studies on the social representation theory (e.g. Herzlich, 1973; Jodelet, 1989). According to Wagner (1994), three different fields

of research could be distinguished in social representations research: 1) folk-science or the popularization of scientific idea such as conception, psychoanalysis, biotechnology (e.g. Wagner, Elejabarrieta & Lahnsteiner, 1995); 2) cultural imagination or the researches on longstanding issues such as sex roles, illness, madness, human body (e.g. Molinari & Emiliani, 1990); 3) the representation of social structures and events with a short-term historical significance and restricted validity in term of population such as studies on protest movement, unemployment, abortion (e.g. Di Giacomo, 1980).

1.1 The functions of social representations

Social representations serve the general tendency to give meaning to the unknown during everyday interactions. Since incongruous and unusual things, needing to be understood, catch individuals' attention every moment, social representations help to establish an order, to conventionalise new objects by locating them in a given category. For instance, we believe that the Earth is round even if scientists assert it has an elliptical form. Making familiar the unfamiliar, social representations enable individuals to identify the events and to give meaning to them, in order to facilitate the task of orienteering in their social environment.

On the other hand, they have a prescriptive character, that is, they impose themselves upon individuals with an irresistible force. Once created during communication and co-operation, representations have a life of their own, circulate and give birth to new ones. From being creatures of thought, representations end up by constituting a social environment where they are shared by all individuals. In this sense, individuals are at the same time producers and users of representations.

Moreover, providing individuals with a code and a language for social exchanges, they enable communication to take place within groups. Social representations constitute a "common sense" or a form of lay understanding provided with shared images and meaning (Moscovici, 1973; 1984). Groups can operate only if such a language is available to

all their members. Thanks to these shared images of the world, individuals can classify unambiguously many aspects of their material and social reality and master it. In this sense, social representations are systems of values, images and practices facilitating the task of identifying, programming and anticipating events.

1.2 How social representations are generated: anchoring and objectifying

When facing unusual social events, individuals try to understand characteristics, intentions and motives behind people's actions, and to form opinions. The anchoring process draws strange ideas into ordinary categories and images, setting them in a familiar context (Moscovici, 1984). For instance, in Jodelet´s study on mental illness (1989), the mental patients were classified by means of the familiar notion of idiots or tramps by the villagers. Anchoring means to classify and name the unnamed, trying to compare it to a prototype. In this way, social representations are a system of classification, making unclassified and threatening things anchored to familiar concepts. In his work on social representations of psychoanalysis, Moscovici (1976) noticed that psychoanalytic terms such as "neurosis" or "complex" gave reality to state of tension and maladjustment which used to be seen as half-way between "madness" and "sanity". Psychoanalytic vocabulary became anchored in the vocabulary of everyday life and thus became socialised.

The second process by which the social representations are generated is the objectifying one, which strives to turn something abstract into something concrete, to transfer what is in the mind to something existing in the physical world in order to facilitate the task of understanding the social world. The objectifying process is the materialisation of an abstraction, aiming to reproduce a concept in an image. For instance, the objectifying of psychoanalysis is characterised by the ideas of inside/outside and visible/invisible as they are fixed in the notions of "conscious" and "unconscious". At a socio-cognitive or mental level,

objectification consists of construction an iconic aspect for a new concept or idea. This results in a figurative nucleus which seizes the essence of the concept.

More recently, Wagner, Elejeberrieta and Lahnsteiner (1995) developed the notion of objectification by integrating it with the theory of metaphors by Lakoff and Johnson (1980). Metaphors and images are used interchangeably, underlying the notion that metaphorical thinking and objectification are both devices to make something less familiar more familiar. As a consequence of the use of metaphors for the understanding of abstract phenomena, the elements of the representation are perceived as real and touchable as the contents of the metaphors are. Moreover, affective and moral connotations of the content of the metaphor are generalised into the representation so that those connotations impregnate the representation with the characteristics of the content of the metaphor.

As time goes by, images are totally assimilated, becoming elements of reality rather than elements of thought and the gap between the representation and what it represents is bridged. Representations and their objectifications depend upon the characteristics of the social unit or group where they are formed. In this sense, specific social conditions of a certain group such as the socio-cultural level, or differences in schooling and education, favour specific kinds of images or metaphors suitable to be used as tools for the objectification. Moreover, a metaphor does not need to be true, but to be good to think with.

1.3 Some criticisms of the SRT

The SRT has been widely criticised during the last 25 years for a number of reasons (cf. Räty & Snellman, 1992 for a review). One of the more convincing criticisms to the theory points to the lack of clear definition of the concept of social representation and the consequent vagueness of the theory. Jahoda (1988) made an accurate review of the theory as discussed by Moscovici itself and objected to the extension of the

concept of social representation by arguing that if any social construction would be a social representation, then at the same time nothing is a social representation. In other words, the lack of formal definition and of boundaries to the concept allows considering everything as a social representation. In this same line, Potter and Litton (1985) argued that social representation could be best view as "a concept in search for a theory" (p. 82). The definition of social representations as dependent and at the same time independent variables has created a major debate as well (cf. paragraph 2.5 on social representations and social practices).

Moscovici has always refused to give a clear definition of a social representation and of its relationship with allied concepts such as attitudes, common sense and ideology. In its own words "clarity and definition will be an outcome of the research instead of being its requisite" (Moscovici, 1985, p.91).

More recently, McKinlay, Potter and Wetherell (1993) and Potter and Litton (1985) focused on the relationship between social groups and social representations and convincingly argued that the SRT is circular in its definition of group. The identification of group and representation is supposed to be at the basis of research on SRT. On one hand a group is defined by means of the social representation shared by its members and on the other hand SRT tries to study the representation created within the group. The authors argued that it is not possible to study the social representation shared by members of a group and then use the same representation to set the boundaries of the group.

Moreover, Potter and Litton (1985) examined the notion of consensus and how it has been approached in the SRT. Groups are characterised by shared social representations which lead to consensus. Those authors criticized the fact that the consensus has been presupposed during the analysis of many researches in the field of social representations rather than allowed to emerge through analysis. Moreover, the authors suggested to consider social representations as "linguistic repertoires" and to embed their study in the context of a more general analysis of discourse. This suggestion is supported by the many

similarities between fundamental concepts of discourse analysis and the SRT.

Räty and Snellman (1992) agreed with Harré (1984) in that the SRT failed to analyse the relationship between scientific and everyday conceptions. In this line, Harre´ (1984) maintained that social representations are basically individual conceptions, since no attention has been paid to the analysis of the "sociality". Of a different opinion are Allansdottir, Jovchelovitch and Stathopoulou (1993) who praised the openness and versatility of the theory. They underlined how the SRT has introduced the social into the discipline as a reaction against the predominant individualistic Anglo-Saxon paradigm.

1.4 Attitudes, social representations and ideology

Jaspers and Fraser (1984) referred to the attitude as individual response or dispositions based on collective representations. In this sense, the notion of attitude and social representations are close, being the former the individual's subjective response to his/her social world, and the latter a shared social reality, which can influence individual behaviour. Social representations are social because they are shared by many individuals and as a result, they become part of the social reality.

Later on, Fraser (1994) discussed extensively the relations between attitudes and social representations and proposed to treat social representations as structured set of social attitudes. While social representations are views of the world, and they are used to study widely shared with-in group similarities in views of the world, attitudes measure differences among individuals. In Fraser's own words, "we should study structured sets of attitudes that are widely shared, and, in doing that, we will be studying social representations" (Fraser, 1994, 5). Coming to the differences between the two notions, Fraser pointed out that attitudes are generally studied in experimental settings and assessed by quantitative

methods, while social representations are usually studied by descriptive qualitative methods.

According to Rouquette and Flament (2003), four concepts could describe the social thinking: 1) opinions, which can express 2) attitudes, 3) representations, bonding together different opinions, 4) ideologies, providing fundamental cognitive resources. As one moves from opinions to the next concept, the inter-individual variability decreases and the integration of contents increases. Individuals showing different attitudes towards a social object could share the same underlying social representation, being an anchor for their attitudes. In the same way, individuals showing different social representations could refer to the same ideological framework, the latter being a more integrated concept.

1.5 Social representations and social practices

The relationship between social representations and social practices has been controversial. Is a change in social behaviour that leads to the formation of a new social representation or is it the other way round? Is the sharing of a given social representation that accounts for the behaviour of individuals as members of social groups?

Moscovici himself gave birth to the debate on the issue describing for the first time the status of social representations as "independent variables, explanatory stimuli" (Moscovici, 1984, 61). Rejecting a positivistic view of human functioning, Moscovici claimed that emotional reactions to external events are not the direct reply to the event itself. It is the representations of the event which determines its understanding and contributes to explain the response to that event. In other words, "social representations determine both the character of the stimulus and the response it elicits" (Moscovici and Markova, 70). For instance when asked about HIV infection, a young kid could understand this disease according to the system of values, ideas and images he or she already shares. In this sense, a social representation could frame the

understanding of its object and could lead more likely to certain behaviour than others.

Wagner (1993) discussed the possible causal link between representation and behaviour and rejected the explaining function of social representations. Firstly, he reminded that social representations are collectively generated into the social discourse and in this sense they can account for the behaviour of individuals as members of relevant social groups, not for any behaviour. The deterministic view of a direct influence of social representations on social practices is rejected on a logical ground by the author, who maintained that social representations can only help to describe individuals' behaviours and cannot explain it.

A couple of years later, Wagner (1995) returned to the issue claiming that the concept of social representation could be used in accordance with the researcher's interests and preferred methodology. At an individual level of assessment where the researcher is interested in the characteristics of a social representation, an individual's representation could cause a subsequent phenomenon. Jodelet's study on representation of madness (1989) is one of the few studies at this level of assessment. At a social level of assessment where the researcher is interested in collective view of the social representation, as shared by large social groups, changes in the living condition could change the relevant representation. Moscovici's study on press representation of psychoanalysis (1961/1976) is an example of this level of assessment. Abric (1994), starting from the structuralist approach, drew the same conclusions and stated the indissoluble link between social representations, discourse and social practice.

1.6 The school of Geneva and the organizing principles

A recent development in the study of social representations comes from Doise, Clémence and Lorenzi-Cioldi (1993) and the School of Geneva. The notion of organizing principle of inter-individual differences was

introduced by Doise (1985) in order to underline the importance of variability in social representations. According to this theoretical framework, even if members of a given population share common knowledge and views about a certain social issue, they may not hold the same positions. In this sense, social representations are considered as "principles generating individual positioning that are linked to specific insertions in a set of social relationship" (Doise, Clémence & Lorenzi-Cioldi, 1993, p.154). These generating principles organize individual differences. In other words, those authors consider inter-individual differences as variations in individual positioning with respect to common reference points. What may be consensual in social representations are reference points in relation to which individuals position themselves according to specific social experiences they share with other individuals. In this sense, an important phase in the study of social representations is the search for a common organising principle of the issue under study. A further assumption is that systematic variations in individual positions are anchored in collective symbolic realities, and in social experiences and beliefs about social reality shared to different extend by individuals.

The extensive studies by Spini and Doise (1998) and by Doise, Spini and Clémence (1999) about human rights showed the existence of a shared meaning system concerning the 30 articles of the Universal Declaration of Human Rights (UDHR) in 35 countries. Even if individual attitudes toward human rights were proven to be highly consistent, individuals differ in the beliefs about their own and the government's efficacy in having human rights respected.

In this sense, an exhaustive study of individual positioning in representational fields entails an analysis of the anchoring of social representations at three levels: 1) the psychological anchoring corresponds to anchoring individual positioning to attitudes or values at an intra-individual level - the preferred method of analysis is the factorial one; 2) the psychosociological analysis of anchoring is linked to the perception of relationships among social groups and to perceptions of the social structure in general - the preferred method of analysis is the

experimental one; 3) the sociological anchoring refers to specific individual' membership to groups and to their shared beliefs and social experiences - factors such as economic status, political or religious affiliation could be analysed at this level (Doise, 1992; 2001; Spini & Doise, 1998).

1.7 Social positioning, social identity and self-definition

Starting from the above mentioned definition of social representation, Clémence (2001) pointed out the notion of social positioning as the anchoring of shared knowledge in different groups. Members of groups share peculiar beliefs and experiences which could function as anchoring points for the formation of opinions and attitudes. In this view, social positioning is conceived as the content of and the process by which individuals take position about a network of meanings. Individual and group positioning allow for communication in everyday life since individuals have to know the network of meanings relevant in a given social context before expressing their own opinions.

This notion found echo in the work by Davies and Harré (1990) in the field of discourse analysis. Those authors argued for the replacement of the concept of "role" with that of "social positioning" in that the latter focuses on the dynamic negotiation of the "self" during interactions and in the way the discursive practices constitute the speaker and the hearer. The ability of individuals to understand the conventions that are linked to positions is essential to social interactions. The way an individual defines him/herself is linked to the acquisition of the categories, such as for instance male/female, according to which the social environment is organised, together with the location of him/herself as a member (or non member) of such categories.

Breakwell (1992; 1993) argued for the integration of the SRT and the Social Identity Theory (SIT) by Tajfel (1978) and the examination of how social representations are linked to social groups in order to better

understand the process at work in the formation of social representations. In the same line, Elejabarrieta (1994) maintained that the articulation between social identity and social representations should include the study of social positioning defined as negotiated expressions of social identities. Self-definition might be studied as social representations as suggested by Doise (1988) if taking into consideration that the self-definition is attached to a social positioning. In other words, social identities, as negotiated in groups, express social positioning. Individuals construct definitions of themselves by means of their position-taking and consequently the study of self-definition should be carried out within the framework of interpersonal communication. Elejabarrieta (1994) called upon a new way of analysing social representations according to which the social positioning is considered as negotiated expression of social identities which are revealed during the interactions between individuals and groups. In this line, we would add that the analysis of the content of the communications between individuals become a key tool to disclosure the elements of the self-identity. Unfortunately, few studies have been carried out in the above summarised theoretical framework and, for this reason, the debate on the integration of SRT and SIT is only a speculative one.

1.8 The concept of themata

A recent development in the SRT is the concept of thema (singular) or themata (plural) (Holton, 1978; Moscovici, 1992; Moscovici and Vignaux, 1994/2000; Markova, 2000). Moscovici and Vignaux (1994) and Moscovici (2001, 31) argued that social representations are generated from themata, defined as “core notions or beliefs”, present in cultural discourse, which may underline a range of domain-specific social representations. A key example is the thema of “nature” which influences a variety of specific representations such as “race” in the ethnic context, “organic food” in the nutrition context (e.g. Bäckström, Pirttilä-Backman & Tuorila, 2003).

As emphasized by Markova (2000), themata are usually pre-categorisations of antonymic nature, like for instance freedom/oppression, male/female, justice/injustice or rich/poor, which are embedded in history and culture. These pre-categorisations are dialogically interdependent. Canonic themata are quite stable cognitive units, which shape particular scientific representations. In the social sciences, there are many canonic themata such as for example the mind-body duality. Those themata come to laypeople's and scientists' mind when an unfamiliar item comes to their attention.

We are used to think in opposition or antinomies implicitly as part of our socialization into culture. We define what is human by reference to what is animal; what is safe to eat by reference to what it is poisonous etc. In principle, any oppositional taxonomies can become themata but only those which in the course of history become problematised, focus of attention and a source of tension and conflict end up being themata (Markova, 2000).

1.9 Collective symbolic coping

In their study on public perception of biotechnology, Wagner, Kronberger and Seifert (2002) proposed the concept of symbolic coping to describe the process by which laypeople struggle to understand new technologies. Since the majority of people do not possess the time and the scientific literacy necessary to collect accurate information about the novelty introduced by biotechnology, people need to resort to other means of understanding, commonly governed by common sense. Symbolic coping refers to "the naming of new phenomenon and attempts to understand its qualities and consequences" (Wagner et al., 2002). During this process, the new phenomenon is collocated in the symbolic universe of everyday thinking and common sense.

Symbolic coping comprises several conditions and stages: 1) awareness, that is the new phenomenon must be communicated as being relevant and challenging, and individuals must be required to hold

opinions in conversation about the issue; 2) divergence, by definition the novelty transcends the existing knowledge to some degree and new interpretations, metaphors and images are called for; 3) convergence, that is various views tend to converge towards one or some shared essential interpretations; 4) normalization, that is the interpretation tend to change towards a more scientifically funded understanding of the phenomenon (Wagner, Kronberger & Seifert, 2002). The last point outlines a major difference with the SRT. Even though the symbolic coping and the SRT share many points in common, Wagner, Kronberger and Seifert (2002) pointed out that according to symbolic coping, as time goes by, the public could rapidly shift from imaginary towards more scientifically literate beliefs while the SRT implies that social representations crystallise in structured set of beliefs which could have nothing to do with scientific accuracy. Moreover, Wagner and Kronberger (2002a; 2002b) investigated the representation of biotechnology by means of focus groups and free-association tasks and highlighted how the representation of biotechnology is rooted into the collective memory and is assimilated to the notion of hybrid.

1.10 Social representations and animals

We report here those few studies which have investigated the social representations of animals and how animals are perceived in modern society.

Deconchy (1987), studying the structure of the social representations of humanity, pointed to the cognitive strategies “believers” in God and “non-believers” use to differentiate the representations of humans and animals. In other words, the author experimentally investigated which kind of “ideas about man” could affect the production of knowledge about the human itself. Results showed that believers tend to perceive the given behaviour as more characteristic of the human being than non-believers in general. Studying the structures of the representations, it was found that 1) the representations of human being was the same among

believers and non believers, 2) the representations of the behavioural heritage common to humans and animals gave raise to two different pictures: among believers, a clear distinction between typical human behaviours, not shared by animals, and behaviours shared by humans and animals could be found. On the other hand, among non-believers the picture is mixed, with typical human behaviours also shared by animals.

Guimelli (1990) using the structuralist approach within the SRT, investigated the characteristic of the central nucleus of the representations of the hunting among hunters. The animal status was never mentioned but he approached the idea of nature and its protection as shared by hunters. The study showed an increased importance of the ecological reasoning around hunting, originating from a change in the hunting practices.

Studying the social exclusion of ethnic minorities, Perez, Moscovici and Chulvi (2002) examined how the construction of human identity was based on the fundamental dimensions nature-culture and animal-human. The main idea was that the nature-culture dimension could be used as a basis for a social classification within which it was possible to understand the processes of social inclusion and exclusion. Through a free-association task, they found that the content of a positive human identity was associated with rationality and individuals' values, while the content of a positive animal identity was defined by "naturality" and "emotional dependence". Culture defined the human identity while nature defined the animal identity. Ethnic minorities were represented by the positive characteristic of animals, embodying something in the middle between human beings and animals.

Ravenna, Speltini and Scappini (1996) explored the beliefs about animals among adults in Italy. The results showed 2 structured beliefs systems: 1) "animal's dignity" which emphasized the ethical value of human sensibility about animals and animal-man affinity; and 2) "animals as objects of use" which pointed out the animal's inferiority and human power. People living with animals, loving them, protecting stray animals seemed closer to the "animal's dignity" belief.

Ravenna, Speltini and Kirchler (1998) found that familiarity with animals, that is pet ownership, gave evidence to a "hot" social representation of the animal as an example, while non pet ownership was related to a "cold" representation of animal as inferior creature which can be used for human benefit.

Notwithstanding the many weaknesses of the theory, we believe that the SRT offers a useful theoretical background for the study of social phenomena such as the way people construct new technologies. Doise (1996) suggested that the SRT should be considered as a theory at the crossroads of many socio-psychological concepts and disciplines such as social psychology, anthropology, history philosophy and sociology. As a consequence, the notion of social representation is a polysemic one in the sense that it refers to a great number of phenomena and processes. We agree with Doise in saying that the plurality of approaches to the notion allows for a variety of research traditions and constitute a richness of the theory and not a weakness.

2. THE HUMAN-ANIMAL RELATIONSHIP

Cette condition des animaux ne dépend pas que de contrôles physiques divers et variables mais aussi de la manière dont les espèce sont pensées et représentées par les hommes. Le statut de l´animal résulte d´une cobinasion complexe de traitements et de perceptions unis par des relations et des interactions. Pour être justifiés, les traitements s´appuient sur des représentations préexistantes ou génèrent des reprérentations adéquates. Celles-ci créent ensuite des attitudes qui, à leur tour, renforcent ou modifient les perceptions.
Baratay, 2003, 11.

Cultural constructs determine the fate of animals
Lawrence, 1994, 184.

2.1 Culture and nature

The history of Western civilization has been characterised by an attempt to distinguish humans and animals by means of tools such as the rationality, or the consciousness, which seems to have allowed the humans to emerge from the irrational, instinctual animal world and to enter into the superior domain of culture. Whereas the animal has been seen as part of nature and its behaviour determined by biological laws,

humans endowed with reason and self-awareness have been seen to be both a part of nature and at the same time to have risen above nature. Even though Darwinian theory placed humans as another species within the process of evolution, science in general maintained this dualism by placing humans as a species apart, whose logic, culture, language, and technological skills have removed humans from the natural world (Agamben, 2002; Baratay, 2003; Martinelli, 2002; Rivera, 2000).

This dualistic view has been reinforced by the Cartesian separation between nature and culture, which has a long history in Western thought from Enlightenment onward. For Rousseau, the passage from nature to culture functioned as a means for understanding the true nature of humanity and to mark a specific field of study for human sciences. In other words, the opposition between culture and nature and the human as distinct from the animal, has been used to legitimize the humanistic sciences and to provide them with their own object, that is culture. The distinction between culture and nature has functioned as a principle of demarcation of what is culture, and therefore fall within the domain of human sciences, and what is not. Culture then has defined the human and became the object of humanistic sciences (Horigan, 1988).

Descola (1996) pointed to the conception of nature as socially constructed and as varying according to cultural and historical determinations. According to the nature-culture dichotomy typical of the Western discourse, nature has been defined negatively as that order apart of reality, which existed independently from human action. Underlying this assumption, the author found a wide-spread tendency to use a dualistic schema or representations which help to grasp the complexity of real life under a set of categories of relations. Anthropological studies have provided valuable examples of the non-universality of this Western dualistic thinking, and have shown how non-Western cultures who conceptualize the world through the totemism or the animism, frequently attribute human traits and behaviours to plants and animals (Descola, 1992; Descola & Pàlsson, 1996; Ingold, 1988).

Moreover, Descola (1992) suggested that this configuration of ideas could be the starting point from which any society builds the concepts of

self and otherness, establishes boundaries and constructs identities. In this sense, animals are good to think with and they have provided an animal mirror for the definition of human identity (Mullin, 1999). On one hand, animals have provided the readily-available point of reference for the continuous process of human self-definition within which in the course of history, humans have been defined as those possessing feelings or consciousness as compared to the brute creatures (Tapper, 1988). On the other hand, the representations or cultural constructions of animals have been used as metaphors for moralizing and socializing purposes. Sometimes certain animals have been idealised and used as models of order and morality in animal stories and myths (Sperber, 1975). Sometimes animals have been represented as the other, the beast, the brute, or as model of disorder or as the way things should not be done. Such animal stories have served three purposes: 1) the use of animal stories avoids articulating difficult or embarrassing truths about humanity; 2) it creates and perpetuates a distinction between humans and animals; 3) it reinforces human morality by giving it a natural basis (Tapper, 1988).

In his book "Society against nature" (1976), Moscovici argued that human beings have always been reluctant to admit that their social system was one among many, and have preferred to see themselves as different and independent of natural and biological influences. Society has been perceived as a unique, dynamic, efficient, active entity opposed to a static, uniform and passive material world. Both Judea-Christian philosophy and the rationalist one have converged in depicting human relationship with animals and plants as based on subduing and exploitation. Challenging this view, Moscovici (1976) asserted the relationship of mutual dependency between society and nature, claiming that humans have created the environment as much as the environment has created human beings. In this vein, society is part of the natural and social orders and the humanity is intimately involved with nature. Moreover, nowadays the society should make peace with nature instead of conquer it.

2.2 Anthropocentrism and ecocentrism

According with environmental ethics, two ways of understanding the human-environment relation are relevant: 1) the ecocentric view, which includes concern for non-human objects and ecosystem even if the preservation of them involves human sacrifice, and 2) the anthropocentric view, which puts human needs above other values, and implies a support for protection of the environment if it satisfies human needs. In other words, in an ecocentric ethic, nature deserves moral consideration because nature has intrinsic value, while in an anthropocentric view, nature deserves moral consideration because the way nature is treated affects humans.

Martinelli (2002, 60) defined anthropocentrism as "a set of mental attitudes that consider human beings as a distinct and independent part of the Animal Kingdom and of the whole Nature, or as no animals at all, but rather a sort of unique entity, not classifiable in biological terms". On one hand, default anthropocentrism consists in the consideration that the subject who observes a given animal is evidently a human being, with its own frame of references and mental categories. On the other hand, binary anthropocentrism, as divided into qualitative and quantitative one, is the tendency to categorise the environment by means of oppositions. In the case of qualitative anthropocentrism, the human being tends to distinguish itself from the animal by means of qualities (either/or) - e.g., human beings can think, animals cannot. In the case of quantitative anthropocentrism, the difference human being-animal is expressed by means of quantities (more/less) - e.g., human beings are cleverer than animals.

Underlying the anthropocentric approach, one could find an instrumental ethic (Norton, 1987), according to which animals have no value in themselves, and nature is a resource, raw material or tool. On this view, nature is a thing to be utilised. This view values nature mostly in term of money. For instance, the animal experimentation practice and the modern farm practices treat the lives of animals as instrumentally valuable.

On the contrary, according to an ecocentric (or biocentric) view, an animal has intrinsic value in itself, on the grounds of its inherent nature or well-being. Animals should be valued in terms of their well-being, and this well-being should be determined from the animal's point of view (Regan, 1983; Singer, 1975; Vilkka, 1997).

Bjerke and Kaltenborn (1999) found that general environmental beliefs mediated between general values and attitudes toward carnivores. These authors administered the ecocentric and anthropocentric scales developed by Thompson and Barton (1994) to a sample of sheep farmers, research biologists and wildlife managers in Norway. Results showed positive association between anthropocentrism ad negative attitudes toward carnivores, and between ecocentrism and positive attitude toward carnivores for all three groups. Framers scored lowest on the ecocentric and highest on the anthropocentric scales, as compared with the other social categories.

2.3 Some sociological views on the human-animal relationship

The history of attitudes toward animals in Western culture in the period 1500 to 1800 has been traced by Thomas (1983) who argued that Medieval and Renaissance theology and philosophy were wholly anthropocentric. Nature was created for the interest of humans which were entitled to treat it as they chose. The Book of Genesis, for example, made reference to human domination over any living thing. Some authors have interpreted this distinction between humans and animals as a useful background for the domination and manipulation of nature (Midgley, 1983; Serpell, 1986; Thomas, 1983).

Major changes occurred gradually over 3 hundreds years and many factors have contributed to shift from anthropocentrism to anthropomorphism and sentimentalised attitudes toward animals in the early modern period. As for the causes of this change, Thomas pointed to the fact that the emergent scientific interest in natural history and

biological sciences has introduced the view that the world was not created for humans alone and undermined the dominant theological anthropocentrism. Moreover, as a consequence of urbanisation and of industrial revolution, humans were less and less dependent on animal power. The English aristocracy and upper classes experienced spatial distance from animals in the process of urbanization and pet-keeping and sentiments for animals became ubiquitous. The brutal and cruel actions performed against animals in the early modern England were interpreted in the light of placing some distance between the animality and the humanity in order to reaffirm the human-animal distinction as threatened by the close proximity with animals. The spatial proximity with animals changed and permitted more sentimental attitudes to develop. The widespread pet keeping provided the psychological foundation for the view that some animals were entitled to moral consideration and this transformed urban sensibilities to animals (Franklin, 1999; Serpell & Paul, 1994; Thomas, 1983).

Tester (1992) criticised Thomas' arguments claiming that too much emphasis was given to the impact of urbanization itself and to the human-pet relationship in the formation of attitudes towards animals in general. The Romantic movement supported a closer relationship with animals and nature and it gave birth to two line of reflections: 1) on one hand, humans are animals and they must regain their connection with nature by means of new consumption of nature and animals such as sports and leisure (i.e. hunting); 2) on the other hand, humans are animals but humans take from nature only what they need so that this line of reasoning calls for an end to animal exploitation and for a vegetarian diet. The animal liberation requires a complete separation from humans and no relationship is admitted, not even pet-keeping.

Franklin (1999) described three dominant ideal type attitudes toward animals as developed in modernity: 1) the sentimental attitude characterises those described as animal lovers who may have a pet, who believe in the humane treatment of animals, who enjoy watching TV programmes about animals, visiting zoos and so on. They most likely eat meat, support restricted application of animal experimentation and are

concerned about endangered species; 2) then there are nature lovers, who feel that they have a real relationship with animals. Many of them are men and hunters. They are concerned about animal conservation and frequently keep pets, especially dogs to participate with in hunting activities; 3) finally, there are those supporting animal rights and struggling toward animal liberation from humans. They do not keep pets because it involves human control over animals (Irvine, 2004). They are vegetarians and avoid any animal product whatsoever.

The twenty century was driven by a more progressive capitalism in which the high level of consumption was achieved in most social classes. In this sense, key economic and cultural changes have greatly affected the way humans have related to animals in the first 70 years of the XX century. In particular, Fordism has allowed for the equilibrium of mass production and mass consumption. The consequences of Fordism for the human-animal relationship could be summarised as follows: 1) technical and scientific development resulting in intensive livestock industries and long-term freezing of meat has made meat consumption available to members of almost all social classes; 2) slaughtering, butchery and meat packing industries were removed from urban locations; 3) industrial fishing resulted in depletion of water stocks; 4) paid raised and allowed more opportunities for trips outdoor involving animals and stimulated the demand for parkland, national parks etc and for media representation of animals as well; 5) higher incomes supported the massification of pet keeping and pet population expanded; 6) the foundation of international charitable organizations stimulated the regulation for the protection of animals; 7) high status was assigned to science and scientists for the control over animal regulation and policy (Franklin, 1999).

In this line, the amount of interaction with animals increased and most of those interactions were explicitly anthropocentric in the sense that animals were used for the pleasure and entertainment of the humans. Moreover, a consensus was reached about the way the control over animals had to be conducted and sentiments for animal well-being were distributed evenly among social classes. In spite of that, many contradictions characterised this consensus. In particular, hunting and

animal experimentation were not compassionate issues, but since they were spatially separated from urban centres, they were virtually neglected (Franklin, 1999).

In post-modernity that is after the 1970s, the pillars of Fordism and large manufacturing went into decline and the consequences for human-animal relationship were massive. First of all, the number of leisure activities associated with animals grew as well as the number of zoos and wildlife parks situated at a short distance from centres and the number of TV programmes about animals increased. Pet keeping grew significantly together with the consumption services for pet animals. Vegetarianism spread off for either health, safety, moral, sentimental and religious reasons. Meat seemed to scare people as the BSE (bovine spongiform encephalopathy) and CJD (Creutzfeldt-Jacob disease) epidemics have shown. Moreover, animal rights groups have taken direct actions against hunting, fur, battery farms and animal experimentation establishments (Franklin, 1999).

In this period, the development of strong emotional attachments to animals can be accounted for in terms of the moral crisis and disorder of post modernity. The nature and the animals became the objects for the transference of human emotions such as love, care and protection on animals as a consequence of 3 main features of the post-modern culture: 1) misanthropy characterised this era of instability and disorder and lead individuals to identify with animals under conditions of common adversity and of pollution; 2) in a climate of ontological insecurity, defined as fragmented family and domestic organizations, animals could become substitute love objects and companions since they could establish enduring relationships of mutual dependency with humans; 3) risk-reflexivity, that is animals have been brought under the human control and their safety relies on the willingness of humans to take moral responsibility for their protection. In this sense, animal worlds became all dependent upon humans (Franklin, 1999).

2.4 Wild and domesticated animals

Digard (1992, 248) suggested an innovative definition of "domestication" as "the permanent actions performed by men on his animals[1]", showing a new conception of the dichotomy wild/domesticated animals. The process of domestication could never be considered as over, and an animal could never be totally domesticated. The author claimed that there are no wild and nor domesticated animals, better there are animals upon which humans exert or have exerted a domesticating action.

Domesticated animals such as pigs, horses and rabbits, once the human pressure is removed, might return to a wild state of existence. Those animals are defined by means of a French word "marrons", referring to those animals (dogs, cats etc.) which have been domesticated and they have returned to a wild life in South America after the XVI century and in Australia after the XIX century (Digard, 1995; Bobbé, 1999).

From an archaeological point of view, the history of domesticated animals is as follows (Digard, 1992; Mithen, 1999):

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[1] *My translation*

Table 1. *The history of domesticated animals*

Dog (central and western Europe)	15000-13000 a.C.
Goat	7500-7000 a.C.
Sheep	6500 a.C.
Pig	6500-6000 a.C.
Ox	6300 a.C. (Syria), 6000 a.C. (Pakistan)
Ass	3500 a.C.
Cat	3500 a.C. (Mediterranea area), 2000 a.C. (Egypt)
Dromedary	3000 a.C.
Horse	2500 a.C.

It has been argued that the most easily domesticated animals have been those perceiving humans as one of their con-specific, thanks to their associative instinct. This tendency to assimilation was higher on species showing: 1) group tendency, hierarchy and low territoriality, 2) free sexual behaviours, males' domination over females, 3) weak offspring's attaching relationship, 4) low reactivity to external events, 5) high adaptability to new environments, 6) low specialised feeding behaviours (Digard, 1992).

Twenty-six species are considered domesticated:

Table 2. *Domesticated species*

Birds (7)	Duck, musk duck, goose, cock, guinea fowl, turkey, pigeon
Mammals (19)	Guinea pig, rabbit, dog, cat, horse, ass, pig, camel, lama, alpaca, reindeer, ox, zebu, yak, Indian bison, swamp buffalo, sheep, goat.

In modern society, domesticated animals are divided in two categories, endowed with different status. On one hand, Europeans live

with millions of companion animals, considered as part of the family. Pets are nourished, anthropomorphised and at the same time transformed in aseptic toys by their owners. On the other hand, a great number of the so-called "useful" animals, such as cows, pigs, chickens etc., are exploited with indifference (Digard, 1993).

Domestication created new kinds of interaction by which humans controlled the freedom and reproduction of certain animals and, at the same time, it changed humans in some fundamental ways. Haudricourt (1962) defined the domestication of animals as a "Neolithic revolution" emphasising the importance of animal domestication for humans. The augmented availability of food resources has allowed for a demographic increase which in turn allowed for a better division of labour, a technical progress and social differentiation such as the appearances of social classes. Beanninger (1995) argued that domestication of animals improved humans` sense of responsibility towards animals and other humans, human ability to plan according to the food need of the herds, the sense of territory by allowing urban settlements. Moreover, it has provided transportation capacity for humans and it has stimulated the growing of cognitive skills of human population by posing new problems concerning animal husbandry and crop growing, such as fencings and spatial orientation.

2.5 Companion animals and pet-therapy

The relationship with pets is the closest and most humanised of the human-animal bond. Thomas (1983) defined pets as having three features not shared by any other relationship with animals: 1) co-residency with humans, that is pets are admitted into the human houses while other domesticated animals are sheltered in external housings; 2) naming, that is pets are frequently given personal human names; 3) inedibility, that is pets are never eaten as a consequence of their special status as household members and their emotional relations with humans.

Pets are not kept because they are useful but because they fulfil emotional and social needs and during the 60s and the 70s, pet keeping was criticised as a pathological substitution of real social interactions (Serpell, 1986). On the other hand, those criticisms must be seen in the context of general anxiety about the decline of marital, family and neighbourhood relations and in the efforts to restore them in the Anglo-Saxon context. Nowadays, pet keeping could be understood as the lack of ontological security, that is the impossibility to believe that some areas of one's life are stable and predictable. As a reply to ontological insecurity, individuals tend to establish enduring and stable relations with companion animals (Franklin, 1999; Piette, 2002).

Since the 60s, pet keeping has become more and more prominent in society. First of all, the number of pets has risen, together with the growth of pet food and service industries. In the same line, the care of pets has become more empathetic and more refined than before. Second, greater emphasis has been given on the companionship and less on the decorative function of pets (Franklin, 1999). Empirical evidence showed that companion animals have been regarded as pleasure and as part of the family (Belk, 1996).

Serpell and Paul (1994) argued that companion animals could function as bridge-builders over the gap between humans and animals. Supported by religious beliefs, the Middle Age anthropocentrism gave risen to a hierarchical notion of human separateness and superiority over nature and animals. In this sense, pet keeping, blurring the distinction between humans and non-humans, has been frowned upon by the Christian church and during the medieval period the mere possession of a pet animal was sufficient to arouse suspicion of witchcraft and bestiality[2]. Later on, pet ownership aroused during the Enlightenment due to growing enthusiasm for natural and science history and concern for animal welfare (Thomas, 1983).

While the idea that pet keeping could serve as a formative role for the development of humane attitudes toward animals has a long history (

[2] *Bestiality is the reference to orgiastic sexual rituals involving demons masked as dogs and cats.*

Locke, 1964), only recently it was supported by empirical evidences which showed that childhood pet ownership was strongly positively correlated with concern for animals in general, with the practice of some form of ethical food avoidance (i.e. vegetarianism), with membership of animal welfare organizations (Bowd, 1984; Bjerke, Kaltenborn & Odegardstuen, 2001; Hagelin, Johansson, Hau & Carlsson, 2002; Miura, Bradshaw & Tanida, 2002; Paul, 2000; Paul & Serpell, 1996).

While pet keeping has been recognised as providing emotional support coming from long term social relations, recent researches suggested that such relations are also useful for human well-being and health. In particular companion animals could enhance quality of life by reducing blood pressure, heart rates, anxiety and depression (Garrity & Stallones, 1998 for a review; Servais, 1989; Wilson, 1998).

Moreover it could enhance social networks by providing opportunity to socialise while elderly adults walk the animals (Rogers, Hart & Boltz, 1993). In this sense, pet keeping stimulates social interaction and well-being. This hypothesis was tested by Hecht, McMillin and Silverman (2001) who found that pet ownership enhanced men's self-esteem.

2.6 Views of animals

Despite the lack of empirical evidence, Benson (1985) provided an interesting classification of attitudes towards the animals:

- *The child-animal*

Coming from the Romantic ideals of XVIII and XIX centuries, some animals are viewed as sweet children, depending on human adults and needing affection. This attitude refers to the paternalistic one shared by St. Francis of Assisi focusing on the protection of animals. More recently, this idea has been supported by TV programmes and movies enhancing empathetic feelings with animals.

- *Alien-animal*

This attitude recognises the fundamental incomprehension between humans and animals and conveys both feelings of fascination and of

suspicion. In this sense, individuals are fascinated by animals in zoos and park-safari but at the same time they attribute to animals the same greed and disloyalty attributed to humans.

- Animal as moral example

Many movies and TV series depict the animals as older brothers and as deputy parents in the sense that they exemplify moral ideals and virtues such as goodness and loyalty (i.e. Lassie, Rin Tin Tin etc.). This attitude implies the anthropomorphised idea that animals are able to understand and then follow the principles of moral rightness.

- Demon-animal

Animals such as mice, snakes, sharks and so on are considered as demoniac animals which trespass the moral boundaries of decency. They are often depicted as cruel predator aiming to the destruction of the properties of humans. This representation is useful for legitimating extensive programs of annihilation.

- Machine-animal

Tracing back to Descartes, the idea of the animals as gears of the productive system is often associated with useful animals such as farm and laboratory animals. No moral reasoning is involved in the live stock production or the intensive farming practices. The large meat consumption, together with the spatial separation between breeding and butchering establishments on one hand and selling points on the other hand, have symbolically removed the useful animals from the idea of the production of their own animal body. In this sense, useful animals' status is located in between the machine and the raw material ones and they are perceived as production tools of their own flesh (Armengaud, 1998; Rivera, 2000).

2.7 Social construction of other animals

As presented above, "nature" and "animals" are culturally and historically specific and cannot be considered objective categories within which to organize the world (Kellert, 1993; Lawrence, 1994; Russel,

1994; 1995; Tapper, 1988). Moreover, these cultural constructions are bond up with language and discourse in the sense that discourse can be considered a way of talking and writing about a social issue that both reflects and perpetuate the structuring of the issue (Rajecki, Rasmussen & Craft, 1993; Stibbe, 2001).

In addiction to this, the way animals are socially constructed can determine the fate of animals in the sense that the implications of these constructions could lead to a preferred behaviour toward animals. In this sense, the investigation of the social construction of animals is crucial for the understanding of the reasons behind a certain treatment of animals. In particular, we are interested in the beliefs system underneath the animal rights movement (ARM) and in the animal welfare and rights activists' representations of animals.

We believe that belonging to the animal welfare and rights movement represents a lifestyle choice in the full sense of the term, which is based on a social representation or a system of meanings, shared to a different extent within the movement. This hypothesis is supported by similar researches which have suggested that the animal rights movement was characterised by its own cosmology (Sutherland & Nash, 1994) and animal rights activists behaved in a quasi-religion fashion (Lowe, 2001).

3. ANIMAL WELFARE AND RIGHTS MOVEMENT

Animal rights (the rights view) and the animal welfare (animal welfarism) are the two philosophies that characterise the contemporary discussion regarding the moral status of animals. Animal welfare shares an utilitarian view according to which humans do nothing wrong when using animals in research, raise them to be sold as food and so on, if the benefit of engaging in these activities outweighs the animal suffering. Welfarists ask that animals not be caused any unnecessary pain and that they be treated humanely. On the other hand, the animal rights view holds that human use of animals is wrong in principle and should be abolished in practice (Regan, 1998).

The first animal rights movement (ARM) began 100 years ago in England and it primarily inspired protests and legislative reforms against vivisection. The modern animal rights movement developed during the '60s and it was based on the assumption of the intrinsic value of individual animal. According to an ecocentric (or biocentric) view (Vilkka, 1997), an animal has intrinsic value in itself, on the grounds of its inherent nature or well-being. Animals should be valued in terms of their well-beings, and this well-being should be determined from the animal's point of view. In Singer's opinion (1975), animals are sentient beings, not sub-human beings with proto-human behaviour. All sentient beings are of intrinsic value because of their conscious state and each conscious life has equal value. Regan (1983) has extended the scope of ethics from people to animals and to non-conscious beings. Not only mammals, but also other animals that lack high cognitive abilities, are

moral patients and are worthy of respectful treatment because of their capacity to suffer. The recognition of animals' inherent value must be related to an attitude of respect and preservation.

The Universal Declaration of Animal Rights (UDAR) was proclaimed in Paris on 15th October 1978 at the UNESCO headquarters. The Italian League for Animal Rights (LIDA) was one of the many associations promulgating and signing the declaration that day. The declaration provides a code of biological ethics for the environment and all the living beings, based on every species' right to live (League for Animal Rights website, 2003) (APPENDIX 2). The text, revised by the International League of Animal Rights in 1989, was submitted to the UNESCO General Director in 1990 and made public that same year.

Following a natural equilibrium among human beings, the declaration rejects speciesism, the tendency to adopt different attitudes towards different species (Ryder, 1989), and suggests a biocentric ethic for the respect of life in general. For the sake of the biological community they belong to, human beings have the moral obligation to respect life in all its shapes. Following this principle, the ARM pursues the respect for wild animals and their habitat and is opposed to:

- hunting and fishing
- the use of animals for fun (no zoos, circus and bullfights);
- the animal taming for 1) human feeding (intensive breeding), 2) sports (horse riding), 3) clothes (fur-animals);
- the use of animals for scientific and cosmetic research;
- the animal abuse.

Although the theory of animal rights is basically different from that of animal welfare, there is confusion between the theory of animal rights, the animal welfare and the social phenomenon called the "animal rights movement". The animal rights-discourse is used to describe any measure aiming to minimize animal suffering. So, for example, a proposal to enlarge the animal cages in experiments is regarded as promoting animal rights even though such a measure is a welfarist reform.

While some "orthodox" positions exist, the modern animal rights movement has rejected the philosophical doctrine of animal rights in

favour of a moderate version of animal welfare that accepts animal rights as an ideal state of affairs that can be achieved through improvements of animal welfare measures. In this line, the animal rights movement, despite its use of rights-discourse and its long-term goal of abolishing any form of animal exploitation, continues to pursue an agenda not dissimilar from the one shared by those accepting some forms of animal exploitation. In other words, the long-term goal is animal rights but the short-term is animal welfare. This hybrid position is called "new welfarism" and its supporters the "new welfarists" (Francione, 1998). *In this book, those positions will be referred to as "animal welfare and rights activism" in order to highlight the existence of two souls, a more "orthodox" and more "moderate" one, inside the movement.*

3.1 Social sciences studies on attitudes towards animals

Social sciences have recently begun to devote their attention to the animal issue and a considerable amount of data has been produced by Anglo-Saxon researchers dating back to the '80s. Serpell (2004) published a detailed review of factors influencing human attitudes toward animals and their welfare, pointing to individual human attributes to one hand, and to animal attributes, on the other.

3.1.1 Portrait of animal rights activist

As for the gender, many studies have consistently shown that women were most likely to support animal rights than men are (Kruse, 1999; Peek, Bell & Dunham, 1996; Eldridge & Gluck, 1996).

As for the political preferences, it has been found that those endowing animals with rights were generally less conservative (Kimball, 1989, quoted in Nibert, 1994), more against violence and more favourable to women's, gays' and Afro-Americans' rights than those not endowing animals with rights (Nibert, 1994).

The animal activist was described as sharing an attitude of caring animals, as sensitive toward animal suffering and as skilfully investigating instances of suffering (Shapiro, 1994). At the same time, participants in the animal rights movement had distinctive, well-articulated and sometimes impassionate beliefs about animals. Jasper and Nelkin (1992) depicted three types of participants: 1) the welfarists, who were mainly concerned about the improvement of animals' well being, 2) the pragmatists, who maintained a moral argument for balancing human and animal interests, and 3) the fundamentalists, who claimed an extreme position which eliminates any hierarchy or distinction between humans and animals.

Moreover, individuals faced major changes in lifestyle when embracing the animal crusade. Activists strove to achieve consistency between their beliefs and their actions and many of them were vegetarian and tried to live a "cruelty-free life" by shopping for consumer products that have not been tested on animals. Those changes in thinking and lifestyle affected interpersonal relationships so that the partner and the friends were often chosen within the movement (Herzog, 1993).

A vegetarian diet could be distinguished in: 1) lacto-ovo vegetarian one, that comprises those eating eggs and diary products but no meat; 2) lacto-vegetarian, those who eat diary products but no eggs or meat; 3) ovo-vegetarian, those who eat eggs but no diary products; 4) vegans, those who do not eat meat, diary products, or eggs; 5) macrobiotic vegetarian, those who consume whole grains, sea and land vegetables, beans and miso; 6) natural hygienist, live on plant foods, combine food in certain ways and believe in periodic fasting; 7) raw foodist, those who eat only uncooked non-meat foods; 8) fruitarian, live on fruits but also nuts, seeds and certain vegetables; 9) semi-vegetarian, those who include small amount of fish or meat in their diet (Amato & Partridge, 1989).

Sutherland and Nash (1994) described these changes in lifestyle and beliefs as a new environmental cosmology, which challenged the Judeo-Christian one and redefined the relationship between humans and animals and may took the form of religious conversion. Animals were placed at the centre of the moral universe and a community of people

looking for redemption through saving animals was created around this belief. The new environmental cosmology provided the believers with frame of references to deal with questions of order and chaos, good and evil and so on.

The construction of reasoning within the animal rights movement was investigated by means of the interactions of pro- and anti- animal rights contributors (Herzog, Dinoff & Page, 1997; Swan & McCarthy, 2003). On one hand, the activists constructed the use of animal as a moral problem and focused on the discussion of philosophical issues, the ethics of particular uses of animals such as meat consumption and animal experimentation and problems of moral consistency. On the other hand, the anti-animal rights side depicted animal use as necessary for human health and pointed to animal rights as incompatible with human well being.

Galvin and Herzog (1998) found that animal rights activists attending a march for the animals had higher level of optimism than comparative groups of college students and that there was a tendency for more optimistic activists to have a more favourable beliefs in the attainment of movement goals in the future. Moreover, Einwohner (2002a) investigated the activists' sense of accomplishment and found that the activists strove to evaluate their efforts positively, using four fortifying strategies to celebrate their success and to support their motivation toward the cause. Among the four strategies, one could find: 1) seeing the positive, that is despite the fact that the activists evaluated some of their efforts negatively, they were always able to find something positive to point to; 2) thinking cumulative, that is interpreting all outcomes as evidence of progress toward the group's goals; 3) celebrating victories, that is trying to share the success with each other and 4) claiming credit, that is the activists used strategically their sense of causality claiming that their protest activity contributed somehow to changes individuals' behaviours or perceptions. In this sense, perceived efficacy was, at the same time, one of the factors that explained participation in collective actions and something that must be maintained for long-term activism.

The recruiting strategies in the animal rights movement have been compared with those of the anti-nuclear movement and discussed by Jasper and Poulsen (1995). While anti-nuclear protestors were mainly recruited by means of pre-existing social networks, animal activists reported to be recruited directly by moral shocks in the form of visual and verbal rhetoric.

Moreover, Einwohner (2002b) illustrated how the construction of activists' identity took into account the opponents' claims. In other words, the activists made use of their opponents' description of them when describing themselves, by use of two processes: 1) recasting external claims in a positive light, that is activists were prompted by external claims to appear as reasonable and calm as possible and 2) affirming identity by confronting external claims, that is the activists drew on external claims in reaffirming the sense of who they were.

3.1.2 Gender

Gender was found strongly related to attitudes towards animals, with women more likely to express concern about the treatment of animals (Driscoll, 1992; Gallup & Beckstead, 1988; Herzog, Betchart & Pittman, 1991; Pifer, Shimizu & Pifer, 1994), to be in favour of animal rights (Kruse, 1999; Peek, Bell & Dunham, 1996; Eldridge & Gluck, 1996), more against animal experimentation than men are (Gallup & Beckstead, 1988; Peek, Bell & Dunham, 1996; Pifer, 1996; Pifer, Shimizu & Pifer, 1994) and more willing to become active in movement organizations (Herzog, 1993; Jasper & Nelkin, 1992; Plous, 1991).

On one hand, this data was explained as a consequence of women's socialization, emphasizing a relational orientation of care and nurturing that extended to animals. In this line of research, women were found as exhibiting more concern about the moral treatment of animals (Gallup & Beckstead, 1988; Galvin & Herzog, 1992b). Galvin and Herzog (1994) found that empathy was a significant predictor of attitudes toward the treatment of animals and since women were more empathetic and more idealistic than men, they suggested that the degree of empathy displayed

by women explained their greater concern for animals and their involvement with animal protectionism.

On the other hand, a few researches have applied feminist theories to gender differences in animal rights advocacy, locating women' elevated support for animal rights in their greater experiences with hierarchical domination. Ecofeminism also suggested that awareness of women's patriarchal domination may affect orientations toward nature and animals (i.e. Adams, 1995). Peek, Bell and Dunham (1996) found that an egalitarian gender ideology is a key difference in women's and men's route to animal rights advocacy in the sense that it differentiated those more likely to endorse animal rights among women but not among men. Using secondary analysis of data obtained from the Longitudinal Study of American Youth (LSAY), Pifer (1996) have found that a strong relationship between pro-feminist attitudes, mostly expressed by women, and opposition to animal research. In the same line, early socialization to success in science, scientific attitudes, scientific literacy were related to support for animal research.

3.1.3 Personality traits

Generally speaking, personality is not a major factor in determining the attitudes of non-animal activists toward the treatment of other species. Attitudes towards 1) animal experimentation and 2) animals are only weakly related to personality traits, as they were measured 1) by the Myers-Briggs Type Inventory (Broida, Tingley, Kimball & Miele, 1993) and 2) by the Sixteen Personality Factor Inventory (Mathews & Herzog, 1997). Those researches were consistently showing how Sensitive Types, characterized as tender-minded, artistic and intuitive, had most positive attitudes toward animal welfare issues.

3.1.4 Empathy

According to Westermarck (1908), the moral reasoning concerning animals was related to emotions, and was based upon the increasing

sympathy (or better empathy) with animal suffering. Human opinions concerning conduct toward animals were not influenced by reflection, but by feeling of empathy with animal world. The increasing empathy with animals was due to the decline of anthropocentric view, and to the emerging of another theory questioning how far the happiness of the (lower) animals may be justly sacrificed for the benefit of human beings.

In this line, Galvin and Herzog (1994) found that interpersonal empathy was a significant predictor of attitudes toward the treatment of animals. Generally, people having greater abilities to empathise expressed greater concern for issues related to animal welfare. Paul (2000) constructed a scale measuring empathy with animals, and showed a significant correlation between empathy with animals and empathy with humans. In other words, those more empathic towards other human beings were more concerned about animal well-being as well, and the other way round.

As for the motivational basis of attitudes towards animals, Hills (1993) found that, with respect to her three-motivation model, animal rights supporters had reduced instrumentality, heightened empathy and strong commitment to a value perspective endorsing equal status for humans and animals.

3.1.5 Education and urban residence

Urban residence (vs rural) and higher levels of education were associated with more positive views of animals (Kellert & Berry, quoted by Serpell, 2004; Bjerke, Kaltenborn & Odegardstuen, 2001).

3.1.6 Pet-keeping

Early exposure to affectionate relationship with animals, for example pet keeping, appeared to predispose people to develop favourable attitudes toward pets (Bjerke, Kaltenborn & Odegardstuen, 2001; Hagelin, Johansson, Hau & Carlsson, 2002; Miura, Bradshaw & Tanida, 2002;

Paul, 2000). The presence of a child in the home was found to be associated with pet-ownership (Wells & Hepper, 1997).

3.1.7 Religious affiliation

The relationship between religion and concern for animals is unclear. On one hand, some religious believers adhered to the dominant biblical view causing animals to remain humans' commodities. In this line, religiosity (as measured by both religious fundamentalism/conservatism and frequency of attendance at religious services) was showed to be linked with stronger emphasis on animal utility and less positive affective responses, even if the majority of such studies focused on western religions (Bowd & Bowd, 1989; Driscoll, 1992, quoted in Serpell, 2004; Kruse, 1999; Snodgrass & Gates, 1998).

On the other hand, religious beliefs may also be a route to ideological support for animal rights in the general population (Baratay, 1995; Frasch, 2000; Li, 2000). Peek, Konty and Frazier (1997) found that religious ideologies laid groundwork in the general population for ideological support of the animal rights movement, while religious association was a roadblock to animal rights support.

3.1.8 Animal attributes

Researches have consistently showed that the estimation of animal intelligence corresponded to the so-called "phylogenetic scale", proceeding from invertebrates, fish, amphibian, reptiles, birds to mammals (Eddy & Gallup, 1993; Nakajima, Arimitsu & Lattal, 2002). Knight, Vrij, Cherryman and Nunkoosing (2004) found that belief in animal mind was a powerful and consistent predictor of attitude toward the use of animals, in the sense that believing in the mental life of animals could introduce a moral dilemma about the acceptable level of pain and distress inflicted on animals.

Animals that were close phylogenetically, or physically and behaviourally similar to humans, tended to evoke more positive affection

than those distant or dissimilar (Eddy & Gallup, 1993; Kirkwood & Hubrecht, 2001; Nakajima, Arimitsu & Lattal, 2002, Plous, 1993). In the same line, those perceived as aesthetically appealing tended to be preferred (Gunnthorsdottir, 2001; Myers, 2002; Serpell, 2002) as are those perceived as fragile and vulnerable (Gunnthorsdottir, 2001).

3.1.9 Attitudes toward animal experimentation

Attitudes toward the use of animals in research have been extensively investigated during the last 25 years (see Hagelin, Carlsson & Hau, 2003 for a review). Among the factors that may influence the outcome, those related to the instrument used to collect data were defined as: 1) the type of research, with higher support for medical than psychological research (Baluch & Kaur, 1995), 2) the animal species involved, with stronger support for animal experimentation involving pests such as rats than involving pet animals or mammals (MORI, 1999); 3) the amount of pain involved, with lower support for procedures entailing discomfort, pain and even death of the animals (MORI, 1999).

As for the factor related to the respondent, those were 1) age, in that adults were more supportive than younger people, 2) gender, with women more opposing animal experimentation (Kellert & Berry, 1987; Herzog, Betchart & Pittman, 1991; Galvin & Herzog, 1992; Eldridge & Gluck, 1996; Pifer, 1996; Pifer, Shimizu & Pifer, 1994), 3) urban background, with rural people having a larger acceptance of human exploitation of animals than urban people (Hagelin, Hau & Carlsson, 2000); 4) geographic location, with greater support for animal experimentation in US than in Europe and Japan (Pifer, Shimizu & Pifer, 1994); 5) confidence in science, with positive attitude toward science related to support for animal experimentation (Broida, Tingley, Kimball & Miele, 1993; Pifer, 1996; Pifer, Shimizu & Pifer, 1994); 6) pet ownership, with negative association between pet ownership and accepting animal use in research (Driscoll, 1992; Hagelin, Johansson; Hau & Carlsson, 2002; Wells & Hepper, 1997); 7) vegetarianism and environmentalism were associated with lower acceptance of the use of

animals in research (Broida, Tingley, Kimball & Miele, 1993; Hagelin, Hau & Carlsson, 1999, Pifer, Shimizu & Pifer, 1994). The relationship between education and religion on one hand, and attitudes toward animal experimentation on the other hand is unclear (Baluch & Kaur, 1995; Peek, Konty & Frazier, 1997).

While some attention has been paid to the quantitative investigation of the animal activist's psycho-social profile (i.e. Einwohner, 2002; Nibert, 1994; Jasper & Poulsen, 1995), little attention has been devoted to the qualitative study of animal activists' reasoning and beliefs about animals and animal rights.

4. ANIMAL BIOTECHNOLOGY

4.1 Definition

Animal biotechnology could be broadly defined as encompassing the asexual reproduction of animals through genetic transformation of animals by means of the recombinant DNA techniques (see GLOSSARY).

From a certain point of view, genetic modification using modern genetic technology is not dissimilar from traditional selective breeding in that farm animals and dogs have been selectively breeding for their commercially important characteristics. For instance, commercial broiler chickens have been selected for grown rate over 50 generations. On the other hand, genetic engineering makes it possible to introduce genes that have not co-evolved over the evolutionary history of the target species. (National Research Council, 2002).

Genetic modification covers two types of activities: 1) altering the genes normally present in an individual in such a way that the alteration is passed to its descendants, 2) transferring the gene or genes from one individual to another of the same species or of different species. The first activity is called pro-nuclear injection and consists in the injection of a new gene in cell embryos so that the injected DNA incorporates in the host's DNA. The embryos are then transferred to the surrogate mother where the embryos develop. The overall success rate of the process of gene insertion is low (2-5%) although this varies according to the animal

species involved and may be up to 10% in mice. The first GM animal, a mouse, was made in the early 1980s, and this technology has been successfully applied to most mammals including cattle, pigs, sheep, poultry, fish and also Drosophila.

Genetic targeting in embryonic stem (ES) cells is the second way by which animals can be genetically modified. ES cells are taken from early embryos which retain the ability to form most of the specialised cell types of the adult. ES cells are dissected out from fertilised embryos and DNA sequences are introduced into the ES cells. The targeted cells are selected and injected into embryos at the blastocyst stage. These embryos are implanted into surrogate mothers which will be carrying chimeras with a proportion of the cells in each tissue derived from the normal embryo cell and a proportion from the injected modified ES cells. ES cells are only available in mice and so far this route is limited to this species.

4.2 Cloning

As a consequence of repeated failures in the developing of ES cells in farm animals, the nuclear transfer has been developed as an alternative way of deriving a bread of identical animals from genetically modified cells. This approach led to the cloning of Dolly the sheep in 1997, the first mammal derived from the cell of an adult animal. Nuclear transfer consists in the removing of DNA from an egg cell where an adult cell is transferred. The egg and the cell are then fused so that they grow together. The embryo then is transferred to a surrogate mother in whom it develops. Nuclear transfer is quite inefficient as proved by the high perinatal mortality and developmental abnormalities (BBSRC, n.d.; The Royal Society, 2001).

A clone is a genetically identical individual grown from a single cell of an embryo or an adult. Cloning itself involves no genetic modification and in this sense clones could not be defined as genetically modified or transgenic. There are two reasons for animal cloning: 1) to make copies

of valuable animals which may have been conventionally breed or genetically modified; 2) to facilitate the production of genetically modified animals in that cloning from cultured cell lines ensures that all the cells in the resulting cloned animal are therefore genetically modified.

4.3 Purposes

Animals are being genetically modified and cloned for: 1) use in biological and medical research to create models of human diseases (i.e. onco-mouse, GM mice strain for cystic fibrosis) and to clarify diseases pathways, 2) safety testing of chemicals and drugs to ensure that they do not cause cancer (GM mice strains have been used already), 3) drug production or the so-called "pharming" to obtain human therapeutics in GM animals' milk, including cattle, sheep and goats; 4) xeno-trasplantation of GM pigs to humans to prevent acute rejection reactions (a number of ethical, clinical and regulatory issues have to be addressed before this application becomes a clinical reality); 5) use in intensive agriculture to confer disease resistance and to make desirable alterations to grown rates or feed conversion efficacy (early stage of the development of this technology) (BBSRC, n.d.; GeneWatch, 2002; The Royal Society, 2001).

4.4 Some data

According to UK data, mice account for the majority of procedures involving GM animals (98%), with the rest comprising rats (1%), pigs, sheep, domestic fowl, amphibians and fish (1% altogether). The mouse genome and its similarity with the human one have been well documented.

During the period 1990-1999, the number of genetically normal animals used in scientific procedures declined while the overall number of GM animals increased. Around 70% of the procedures were primarily

concerned with breeding, 25% were involved in fundamental biological research on studies on gene function, and the rest 5% was used in applied studies (i.e. testing new drugs) (Parliamentary Office of Science and Technology, 2001).

4.5 Some concerns

The development of animal biotechnology involves a number of reflections about the possible perils for 1) human safety coming from new or increased allergic reactions to animals (if used as food source), 2) animal welfare in the sense that the animal wellbeing could be deeply affected by major changes in the animal behaviour and by repeated manipulation of their chemical balance, 3) environmental preservation, in that adverse effect could arouse from the unwilled release in the environment of toxins or other biologically active proteins (BBSRC, n.d; The Royal Society, 2001).

4.6 Attitudes and social representations of animal biotechnology

The Eurobarometer (2003) showed that public clearly distinguished between different applications of biotechnology. While Europeans were neutral about agricultural biotechnology, Eurobarometer found a consistent pattern of opposition to animal biotechnology since 1991. Widespread opposition to such technology was shared by all the 16 European nations participating to Eurobarometer with the exception of Portugal and Spain. Animal cloning had one of the higher percentages of opponents, together with GM food and crops (Gaskell et al., 2000).

Reviews of the relevant literature by Breakwell (2002) and by Macnaghten (2002) showed that people's reasoning about the justification of the application of animal biotechnology was characterised by the following features: 1) the perception of lack of information about the issue; 2) whether the technology was useful and ethical; 3) whether

animal welfare was respected on not; 4) the considerations about the moral unacceptability was more important than the perceived risk for humans and the environment.

A prolific line of research developed by Wagner, Kronberger and Seifert (2002) has deeply investigated the social representations of biotechnology in the European domain. As for the socio-psychological process in action in the formation of beliefs about new technologies, Wagner, Kronberger and Seifert (2002) argued that since the majority of people do not possess the necessary educational resources or the time necessary to collect first-hand information about animal biotechnology, the general public develops an everyday understanding of the new technology by engaging in a process of collective copying (see paragraph 1.9 on collective symbolic coping).

Collective copying with biotechnology in general involved a discourse related to moral concerns about interfering with nature. Human beings were seen as transgressing natural boundaries and interfering with the natural harmony. In this sense, they are perceived as doing something they are not allowed to do and, in a way, as playing God. As a consequence, lay discourse defines biotechnology as both morally objectionable and risky in the light of the unforeseen consequences of messing with the sacred nature. Nature is thought as some kind of living being which could be either benign to humans or either take revenge on humans who have trespassed natural borders (Wagner & Kronberger, 2002a; 2002b; Wagner at al., 2002).

On one hand, animal biotechnology was viewed as natural progressive evolution from selective breeding, while on the other hand it was perceived as a major human intervention on nature. In the latter sense, individuals were unease about the manipulation of nature which related to the corruption of integrity of the nature of animals and other undesirable effects resulting from such manipulation. Concern was expressed about the preservation of animal welfare and about the environmental impact of GM animals (AEBC, 2002).

When considering ethical concern about the genetic modification of animals, three aspects must be distinguished: 1) fundamental moral

objection to the use of animals for human benefit, 2) moral reasoning about the genetic modification of animals and the preservation of animal integrity; 3) concerns about the consequences of genetic modification such as the damages to the welfare of modified animals (The Boyd Group, 1999).

Many have been the possible explanations to this uneasiness. One could speculate that the modification of animals was likely to be emotionally charged because of the beliefs in animal rights and because of the emotional bonds people have with companion animals and of the popularity of animal cartoon characters (Bruhn, 2003).

Moreover, genetic engineering, by crossing the species, smears the human-animal distinction which is proper of the Western thought. As a consequence, genetic engineering is perceived as unnatural and stimulates feelings of repulsion and disgust (Rollin, 1995).

The public uneasiness about animal biotechnology was partly related to the fact that our relationship with animals in Western country was complex and contradictory. The cultural volatility of the notion of animals was pointed out as responsible for the complexity of the representations of animals and the uneasiness about animal biotechnology. Animal biotechnology reduced animals to aggregate of chemicals and in this way impoverished animals as a source for articulating human identity (Michael, 2001).

Moreover, animals play a role in the formation of supra-local identity in the sense that they are our “other” and they can serve as a way to articulate our social identity (Baker, 1993; Noske, 1989).

4.6.1 Animal cloning

In 1997, about two-thirds of the public believed that animal cloning was a bad idea and about 50% disapproved of this kind of research (Singer, Corning & Lamias, 1998). United Stated and European public were consistent in showing a moderate opposition to xeno-transplantation (Eurobarometer, 2003; Gaskell, Thompson & Allun, 2002).

The moral acceptability of animal cloning was found as the most important explanatory factor in the encouragement or discouragement of cloning for pharming purposes. The general attitude towards cloning and the evaluation of the balance utility/risk explained the public support for cloning (Einsiedel, 2000).

Among the possible explanations, one could speculate that cloning presents threats to human identity and to the very essence of self. The equation identity-uniqueness is put in danger by the possibility of duplicating humans (Einsiedel et al. 2002).

4.6.2 Xeno-transplantation

The issue of xenotransplantation stimulated images of monsters generated by the combination of different body parts of different species. Those images reminded people of the Frankenstein story and similar fairy tales where monsters were created by the human desire to reach immortality. The motive of wanting to be immortal and young forever was considered morally unacceptable in itself. Moreover, moral questions aroused on the acceptability of taking healthy organs from animals to be transplanted in humans and on perceiving animals as just machines or "spare parts bins". (Nerlich, Clarke & Dingwall, 1999; Wagner et al., 2002).

4.7 Trust in science and in sources of information

People expressed great faith in science and trust in medical profession about correctness of information about xeno-transplantation (Gaskell et al., 1997). This view could rely on the perception of science as value-free which is embodied into Renaissance ideology of science (Rollin, 1995).

At the same time, a concurrent idea depicts science as a socially irresponsible and insensitive institution which leads humanity to the

mixing of species and to the breaking of natural laws (Einsiedel et al., 2002).

4.8 Public Understanding of Science (PUS) and the deficit model

According to the deficit model, scientifically literate individuals are more competent in everyday life, more able to make informed decisions and scientific literacy is a prerequisite for effective democratic participation on issue of science and technology.

Moreover, a scientific literate public tend to be more supportive of technology. On the other hand, the opposition to new technologies is grounded in ignorance or misinformation and information campaigns to inform the public could be effective in cultivating greater confidence in science and technology (Wynne, 1995; Durant, Evans & Thomas, 1989).

Unfortunately, empirical investigations have found a weak connection between knowledge and evaluation of new technologies (Allum, Boy & Bauer, 2002; Pfister, Böhm & Jungermann, 2000). Moreover, the deficit model has been criticised in favour of the study of the cultural context of the public understanding of science. In this line of research, studies tend to focus on the understanding of lay local publics which possess certain highly relevant knowledge and skills that reflect local cultural and concrete circumstances. According to critical PUS, citizens are already knowledgeable, since they possess local knowledge (Michael, 2001).

Allum, Boy and Bauer (2002) proposed a post-industrial model of public understanding of science which received some confirmation. While in industrial societies scientific knowledge was confined to relatively small social elite and the public interest in science was high, in post-industrial societies the scientific knowledge was more distributed and interest in science was relatively low because science was somehow taken for granted. In other words, industrial societies were societies where science and technology were extensively idealised as preferred

path to economic and social progress, while in post-industrial societies science has already penetrated the public sphere and was critically evaluated by the public.

4.9 The Italian case

In Italy, GM-related research activities are relatively insignificant and no public controversy on GMOs has been reported. The debate on GMOs has risen quickly after 1996 while before that year, no public debate have been registered. Moreover, in 1999 Italy has been among those European nations to sign a declaration to suspend new authorisations for commercialisation of GMOs (Marris, Wynne, Simmons & Weldon, 2001).

Few data are available on the public perception of animal and agricultural biotechnology in Italy. The Italian public opposes animal cloning and the trend over the last 10 years shows a moderate shift towards more positive views about biotechnology in general (Eurobarometer, 2003).

5. EUROPEAN LEGISLATION ON ANIMAL EXPERIMENTATION: THE ITALIAN AND FINNISH CASE[3]

5.1 Summary

This article focuses on the state of current European legislation on animal experimentation and it approaches historically its development, tracing back from the Declaration of Helsinki to date. Moreover, rising applications of animal biotechnology requires the legislation to be confronted with new challenges posed by progressing medical and veterinary research. Particular attention is paid to the examination of the Italian and Finnish implementation of European Directives.

5.2 Introduction

European unification requires member states to align national legislation with European Directives on animal experimentation in order to achieve common regulation on the issue. This article tries to review the relevant legislation on animal experimentation, with particular emphasis on the rising technology of animal engineering. Recent developments of animal

[3] *Few parts of this chapter have been included in a article which is currently under peer-review by Animal Technology and Welfare journal.*

biotechnology, while opening the road to unforeseen breakthroughs in medical and agricultural research, put the legislator in front of new challenges regarding the safeguard of human health, the preservation of environment as well as moral reasoning about the welfare of animals.

Of particular interest here is the role played by the public opinion as primarily concerned with the welfare of animals and with ethical reasoning on the use of animals for human benefit. Under the pressure of these opinion movements, the Eurogroup for Animal Welfare[4] was founded in 1980 with the aim to encourage the introduction of EU animal protection legislation. Public concern for animal welfare varies across Europe, being generally stronger in the North and weaker in the South. Considering that public opinion is an important agent for change, relevant national legislations of a Northern Europe country – Finland – and of a Southern one – Italy – are discussed.

5.3 The Declaration of Helsinki

One of the earliest international documents dealing with the protection of animals used in medical research seems to be the *Declaration of Helsinki*, promoted and adopted by the World Medical Association (W.M.A.) in June 1964. The World Medical Association is an international organization representing physicians from different countries, founded on 1947, created to ensure the independence of physicians and to work for the highest possible standards of ethical behaviour and care by physicians.

The Declaration of Helsinki states the *Ethical principles of Medical Research Involving Human Subjects*[5], and describes animal experimentation as a relevant source of information in pursuing medical research. According with this Declaration, the welfare of animals used

[4] *The Eurogroup for Animal Welfare, http://www.eurogroupanimalwelfare.org/about.htm*

[5] *The Declaration of Helsinki: Ethical principles of Medical Research Involving Human Subjects, http://www.wma.net/e/policy/17-c_e.html*

for research must be respected. Among the basic principles for medical research, one could find:

> 11. "Medical research involving human subjects must conform to generally accepted scientific principles, be based on a through knowledge of scientific literature, …and, where appropriate, animal experimentation."
>
> 12. "Appropriate caution must be exercised in the conduct of research which may affect the environment, and the welfare of animals used for research must be respected."

5.4 International guiding principles for biomedical research involving animals

The Council for International Organisations of Medical Sciences (C.I.O.M.S.) is an international, non-governmental, non-profit organisation established jointly by WHO and UNESCO in 1949, to promote international activities in the field of biomedical sciences.

As a result of extensive international and interdisciplinary consultations between 1982 and 1984, CIOMS developed the *"International guiding principles for biomedical research involving animals"*[6], a set of guiding principles for the conduct of animal experimentation, in order to provide a conceptual and ethical framework to which academic, governmental and industrial bodies may refer in framing their own codes of practice or legislation. Such international guiding principles are the results of the collaboration between members of the international biomedical community and of consultations with animal welfare groups.

Affirming the fundamental role of animal experimentation in many advances in medical science, the international guiding principles entail responsibility toward the welfare of laboratory animals. The document claims the necessity of animal experimentation for the advancement of

[6] *International guiding principles for biomedical research involving animals, http://www.cioms.ch/1985_texts_of_guidelines.htm*

biological knowledge, and suggests undertaking animal experiments after considering their relevance for human and animal health. It recommends to treat animals as sentient beings, and to take care of their living conditions. Alternative methods should be used "whenever appropriate". The adoption of alternative approaches is viewed as being complementary to the use of animals and encouraged. National authorities should establish norms for the acquisition of laboratory animals, their transportation, their housing, their living environment, their nutrition and the veterinary care. Record of data on animal experiments should be kept updated (Hampson, 1990).

5.5 Compendium of European legislation on animal experimentation

5.5.1 The Council of Europe

The *Council of Europe* is a political organization, founded in 1949, which groups together 45 nations, including 21 countries from Central and Eastern Europe and it is distinct from the 25-nation *European Union*. Among other aims, the Council was set to defend human rights and to develop wide agreements to standardize member countries´ social and legal practice. Since 1989, its main job has become a political anchor assisting the countries of Central and Eastern Europe in carrying out and consolidating political, legal and constitutional reform in parallel with economic reform.

The first European document covering laboratory animals is the *"European Convention for the Protection of Vertebrate Animals Used for Experimentation and other Scientific Purposes, No. 123 of 18 March 1986"*[7], promulgated by the Council of Europe. The provisions of the Convention are designed to help the signatory states to guarantee that

[7] *European Convention for the Protection of Vertebrate Animals Used for Experimentation and other Scientific Purposes, No. 123 of 18 March 1986, http://conventions.coe.int/Treaty/en/Reports/Html/123.htm*

animals are treated properly and humanely and that where procedures causing pain, suffering, distress or lasting harm to an animal are kept to a minimum. While accepting the need to use animals for experimental and other scientific purposes, the Convention recognises "that man has a moral obligation to respect all animals and to due consideration for their capacity for suffering and memory". Everything possible shall be done to limit such use with the ultimate aim of replacing such experiments by alternative methods. In this vein, the document follows the Three Rs principles (reduction, refinement and replacement) of humane experimental research (Russel & Burch, 1959). The Convention applies to any live non-human vertebrate animal, including free-living and larval forms (excluding foetal or embryonic forms) used or intended for use in any experimental or other scientific procedures causing pain or lasting harm (Wilkins**,** 1997). Such Convention defines:

1. Legitimate purposes for which laboratory animals may be used, that is:

    a) Diagnosis, treatment, avoidance or prevention of disease, ill-health or other abnormality, or their effects, in man, vertebrate or invertebrate animals or plants, including the production and the quality, efficacy and safety testing of drugs, substances or products;

    b) Detection, assessment, regulation or modification of physiological conditions in man, vertebrate and invertebrate animals or plants;

    c) Protection of the environment;

    d) Scientific research;

    e) Education and training;

    f) Forensic inquiries.

2. General care and accommodation guidelines; any animal used or intended for use in a procedure shall be provided with accommodation, an environment, at least a minimum degree of freedom of movement, food, water and care, appropriate to its health and well-being. Also, the Declaration sets detailed

guidelines for accommodation and care of animals in Appendix A.

3. Conduct of procedure regarding restrictions to animal experimentation. A procedure shall not be carried out if there are other ways and means to obtain the same results. The decision whether a procedure is indispensable shall be based in particular on the applicable state of scientific knowledge. It lays emphasis on the reduction of the number of animals used and of animal pain to a minimum. Also, it excludes procedures without an anaesthetic, except in cases where the administration of such an anaesthetic would be more painful than the procedure itself, or would be "incompatible with the aim of the procedure". In the latter case, appropriate legislative or administrative measures must be taken to prevent such procedures from being carried out unnecessarily. Those measures, including compulsory declaration to, and specific authorisation by the responsible authority must be taken to prevent unnecessary experiments which cause severe pain to an animal.
4. Authorisation matters, that is the Convention states that the procedures may be carried out by persons authorised, or under the direct responsibility of a person authorised. The scientific competence of the persons concerned is the condition for granting such authorisation.
5. Breeding or supplying establishments; the Convention lays down special rules for dogs and cats. Such provisions are necessary because of the great number of animals used. Also, it requires that in user establishments the administrative responsibilities be clearly defined, that sufficient trained staff be employed, that, when needed, veterinary advice and treatment be at hand and, finally, that a competent person to supervise the well-being of the animals.
6. User establishments; the Convention recognises the need to use animals of known origin in order to avoid illegal

acquisitions and to preserve rare and endangered species. It is also the surest way of obtaining domesticated animals, already adapted to laboratory life.

7. Education and training; the Convention allows procedures to be carried out in education and training programmes, directed to preparing for professional activities involving the performance of procedures or the treatment or care of animals.
8. Statistical information; the Convention obliges each party to collect statistical information on the use of animals in procedures and to make such information available to the public. Information shall be collected in respect of:

    a) the numbers and kinds of animals used in procedures;

    b) the numbers of animals used in procedures directly concerned with medicine and in education and training;

    c) the numbers of animals used in procedures for the protection of man and the environment;

    d) the numbers of animals used in procedures required by law.

Briefly, the document aims:

1. to define legitimate purpose for which laboratory animals may be used;
2. to exert control over permissible levels of pain and other distress;
3. to provide for inspection of facilities and of procedures;
4. to ensure humane standards of animal husbandry and care;
5. to ensure public accountability of scientific results.

The Convention was opened for signature on 18 March 1986. Once the conventions have been signed and ratified, they should be transposed into national law and be enforced into practice. Notwithstanding, the

Council of Europe obligation is a moral one, rather than a legal one. Finland has signed the convention since 1991 and it entered into force on July 3rd , 1992 while Italy has never signed the convention.

5.6 The European Union

5.6.1 The Amsterdam Treaty

In Amsterdam June 1997, the European Union heads of state agreed to review the Treaty of Rome formerly establishing the EU, and to include a special *protocol* on animal welfare in the so-called *"Amsterdam Treaty"*[8], the new *European Union Treaty*:

> **"**In formulating and implementing the Community's agriculture, transport, internal market and research policies, the Community and the Member States shall pay full regard to the welfare requirements of animals, while respecting the legislative or administrative provisions and customs of the Member States relating in particular to religious rites, cultural traditions and regional heritage".

This protocol recognised for the first time animals as sentient beings and introduces a clear legal obligation for the Community institutions, such as Commission, Parliament and Council, to pay full attention to the animal welfare. The Treaty, agreed in June 1997, entered into force on May 1st, 1999 (World Animal Net, web-site).

5.6.2 Relevant legal texts

Among other legislation, the EU can enact Directives and Decisions. Directives are not operative in the member countries but direct each country to pass national legislation to put them into effect. Decisions are

[8] *The Amsterdam Treaty, http://europa.eu.int/abc/obj/amst/en/*

binding on those to whom they are addressed (can be Members States, companies or individuals).

Relevant legal texts are[9]:

1. *Council Directive 86/609/EEC of 24 November 1996* on the approximation of laws and administrative provisions of the Member States regarding the protection of animals used for experimental and other scientific purposes[10]; the Directive does not cover animals used for the purpose of education and training. The Directive contains two Annexes; Annex 1 listing the species of animals covered by Article 21 of the Directive and Annex 2 containing the guidelines for the housing and care of laboratory animals.
2. *Commission Decision of 9 February 1990* setting up an Advisory Committee on the Protection of Animals Used for Experimental and Other Scientific Purposes.
3. *Council Directive 93/35/EEC of 14 June 1993* amending for the sixth time Directive 76/768/EEC on the approximation of the laws of the Member States relating to cosmetic products.
4. *Commission Directive 97/18/EC of 17 April 1997* postponing the date after which animal tests are prohibited for ingredients or combinations of ingredients of cosmetic products.
5. *Commission Directive 1999/12/EC of 8 March 1999* adapting to technical progress for the second time the Annex to Council Directive 88/320/EEC on the inspection and verification of good laboratory practice.
6. *Council Decision 1999/575/EC of 23 March 1998* concerning the conclusions of the Community of the European Convention for the protection of vertebrate animals used for

[9] *Eurogroup for Animal Welfare, http://www.eurogroupanimalwelfare.org*

[10] *Council Directive 86/609/EEC of 24 November 1996 on the approximation of laws and administrative provisions of the Member States regarding the protection of animals used for experimental and other scientific purposes. http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31986L0609&model=guichett*

experimental and other scientific purposes[11]. In 1998, the European Commission has passed Decisions on the conclusion of European Convention n.123 concerning animal experimentation, stating that the European Community will intensify its effort to develop substitute scientific methods in order to meet its objective of reducing the number of animals used for experimental purposes to a minimum. Reservation in respect of Art.28(1) lets the European Union free from the requirement to communicate statistical data concerning the number of animals and the animal species involved.

7. *Commission Directive 1999/11/EC of 8 March 1999* adapting to technical progress the principles of good laboratory practice as specified in Council Directive 87/18/EEC on the harmonisation of laws, regulations and administrative provisions relating to the application of the principles of good laboratory practice and the verification of their applications for tests on chemical substances.
8. *Commission Directive 2000/41/EC of 19 June 2000* postponing for a second time the date after which animal tests are prohibited for ingredients or combinations of ingredients of cosmetic products.
9. *Proposal for a Directive of the European Parliament and of the Council amending Council Directive 86/609/EEC* on the approximation of laws, regulations and administrative provisions of the Member States regarding the protection of animals used for experimental and other scientific purposes[12]. On July 2002, the European Parliament approved the

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[11] Council Decision 1999/575/EC of 23 March 1998 concerning the conclusions of the Community of the European Convention for the protection of vertebrate animals used for experimental and other scientific purposes. http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31999D0575&model=guichett

12 Proposal for a Directive of the European Parliament and of the Council amending Council Directive 86/609/EEC on the approximation of laws, regulations and administrative provisions of the Member States regarding the protection of animals used for experimental and other scientific purposes, http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=COMfinal&an_doc=2001&nu_doc=703

Commission's proposal subject to certain amendments. This directive, aiming to harmonize Member States legislation on animal experimentation, points to the reduction of the number of animals, to the avoidance of unnecessary painful procedures, and to the improvement of animal husbandry and well-being. Each member state should indicate an Authority in charge for verifying the implementation of the Directive provisions, who receives preliminary communication about the experiments, collects and publishes statistical data on animal experimentation and avoids that experiments already run in other states are run twice. Experiments should be carried on by trained personnel and the breeding establishments should be authorised and registered by the authority in charge. Records on animals living in the breeding establishments should be kept.

10. *Commission Directive 2003/15/EC of the European Parliament and of the Council of 27 February 2003*[13] amending *Council Directive 76/768/EEC of 27 July 1976* on the approximation of the laws of the Member States relating to cosmetic products[14]. According to this Directive, after September 11th, 2004 Member States have to bring into force the laws and administrative provisions necessary to prohibit the marketing of finished cosmetic products or their ingredients that have been tested on animals, whenever alternative methods validated at Community Level are available. Every year, the Commission should present a report on progress made in the development of alternative methods, containing data on the number and type of experiments

13 Directive 2003/15/EC of the European Parliament and of the Council of 27 February 2003 amending Council Directive 76/768/EEC of 27 July 1976 on the approximation of the laws of the Member States relating to cosmetic products, http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=32003L0015&model=guichett

14 Council Directive 76/768/EEC of 27 July 1976 on the approximation of the laws of the Member States relating to cosmetic products, http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31976L0768&model=guichett

relating to cosmetic products carried out on animals. The manufacturing and importation of cosmetic products tested on animals should be banned within the Community starting from March 11th 2005, whenever validated alternative method is available.

5.7 Genetically modified animals (GMA)

Application of genetic modification technology to animals can be used in medical research to create models of human disease. Such models help identify disease pathways and allow assessment of new therapies. Also, GM animals producing in their milk or other tissues substances of benefit to humans have been developed and the use of GMA is likely to rise in the future (The Royal Society, 2001).

At the moment, there is no applicable EU directive specifically related to genetic engineering but a number of Council Directive concerned with the welfare of engineered animal as well as diverse developments of animal engineering. The welfare of GMA in laboratory settings is covered under the Council Directive 86/609/EEC of 24 November 1986 and under the European Convention for the protection of vertebrate animals used for experimental and other purpose while the Directive 98/58/EC[15] gives general rules for the protection of animals kept for farming purposes. Council Directive 93/42/EEC[16] of 14 June 1993 concerning medical devices covers potential xeno-transplantation material involving the use of a medical device, while Directive 90/219/EEC[17] (revised 1998[18]), and supplemented by Directive

[15] *Council Directive 98/58/EC of 20 July 1998 concerning the protection of animals kept for farming purposes, http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31998L0058&model=guichett*

[16] *Council Directive 93/42/EEC of 14 June 1993 concerning medical devices, http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31993L0042&model=guichett*

[17] *Council Directive 90/219/EEC of 23 April 1990 on the contained use of genetically modified micro-organisms, http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31990L0219&model=guichett*

2001/204/EC covers the restricted use of GM micro-organism. This Directive requires all work with GM animals to be subjected to a risk assessment for effect on human health and safety as well as for impact on the environment. Council Directive 2001/18/EC[19] covers the release and marketing of GMOs.

5.8 The European Centre for the Validation of Alternative Methods (ECVAM)

As a result of the European Commission commitment to encourage research into and validation of alternative methods, expressed in the Art.23 of the Council Directive 86/609/EEC of 24 November 1996, the *European Centre for the Validation of Alternative Methods (ECVAM)* was founded in 1993 at Ispra, in Italy.

The role of ECVAM is to coordinate the development and validation of alternative methods and to set up and update a database on alternative procedures. The ECVAM activities are defined according to the recommendation of its own Scientific Advisory Committee, which is composed by representatives of the Member States, the European chemical and pharmaceutical industry associations, academic toxicologists as well as animal welfare groups. Until now, the ECVAM has given priority to alternatives for cosmetic testing[20].

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18 Council Directive 98/81/EC of 26 October 1998 amending Directive 90/219/EEC on the contained use of genetically modified micro-organisms, http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=31998L0081&model=guichett

19 Directive 2001/18/EC of the European Parliament and of the Council of 12 March 2001 on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/220/EEC, http://europa.eu.int/smartapi/cgi/sga_doc?smartapi!celexapi!prod!CELEXnumdoc&lg=EN&numdoc=32001L0018&model=guichett

20 European Centre for the Validation of Alternative Methods, http://ecvam.jrc.cec.eu.int/index.htm

5.9 The Italian Legislation

The Italian Ministry of Health grants the licence to carry out animal experimentation. The authorisation is based on the scientific background of the project while the procedures involving pain to animals without anaesthesia need a specific approval. In many institutions Animal Care and Use Committees regularly review the acceptance of experimental programmes.

Relevant Italian laws covering laboratory animals are[21]:

1. *Decreto Legislativo DLT 27 gennaio 1992 n.116* (S.O. n.33 alla G.U. n.40 del 18 febbraio 1992) "Attuazione della direttiva n.86/609/CEE in materia di protezione degli animali utilizzati a fini sperimentali o ad altri fini scientifici[22]" and its explaining and implementing documents (Circolare Ministero Sanità n. 32 del 26/08/1992; Comunicato - G.U. n.294 del 15/12/1992; Circolare n.17 del 05/05/1993; Circolare n.18 del 05/05/1993; Circolare n.8 del 22/04/1994[23]; Circolare n.6 del 14/05/2001[24]). The transposition into law of the Council Directive 86/609/EEC dates from January 1992 and it aims to careful planning of the experiments, and to the protection of animal health and well-being. The Ministry of Health has developed a Quality and Security Unit to monitor and evaluate the experimental procedures of the research projects. The Decreto Legislativo N.116 describes the accepted experimental procedures and the quality standards for animal accommodation. The Annex 1 lists the animal species that can be used, that is mouse (Mus musculus), rat (Rattus norvegicus), guinea pig (Cavia porcellus), hamster (Mesocricetus aurarus), rabbit (Oryctolagus cuniculus),

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[21] *More info at: http://www.novivisezione.org/info/elenco_leggi.htm*

[22] *Decreto Legislativo DLT 27/01/1992 Num.116 "Attuazione della direttiva n.86/609/CEE in materia di protezione degli animali utilizzati a fini sperimentali o ad altri fini scientifici", http://www.novivisezione.org/info/DLGS_116.htm*

[23] *Circolare n.8 del 22/04/1994, Source: www.ebra.it*

[24] *MINISTERO DELLA SANITA', CIRCOLARE 14 maggio 2001, n.6, Applicazione del decreto legislativo 27 gennaio 1992, n. 116, in materia di protezioni degli animali utilizzati a fini sperimentali o ad altri fini scientifici. http://gazzette.comune.jesi.an.it/2001/144/5.htm*

non-human primates, dog (Canis familiaris), cat (Felis catus), quail (Coturnix coturnix) coming from registered breeding establishments. Experiments lasting more than 3 years, not administering anaesthesia, involving non-human primates or endangered species, for didactic purposes, causing lasting pain or permanent damage have to be authorised by the Quality and Security Unit. Written communications about all the other experiments have to be sent to the above mentioned unit. The document states that:

2. Animal experimentations, including those for didactical purpose, must be carried out only when alternative methods are not available;
3. Animals used in experimental procedure must be anaesthetised and no animal can undergo experimentation twice;
4. Neurologically lowly developed species should be used whenever possible;
5. Animal welfare must be safeguarded by means of the evaluation of the quality of breeding establishments.
6. The Ministry of Health can grant permission to carry out experiments on non-human primates, such as cats or dogs without anaesthesia, in such cases when anaesthesia is incompatible with the purpose of the experiments.
7. Data on the amount of animals used in research should be registered and reported to the competent authority, namely the Ministry of Public Health;
8. According with the Italian legislation, establishments performing animal experimentation are encouraged but not obliged to enact Animal Care Committees. During the last 10 years, many public and private research centres have developed their own Ethic Committees. On average, they are composed by 9 to 11 members, mainly physicians, biologists, vets, researchers experienced in animal welfare, technicians, lawyers, bioethics experts and members of the public opinion. The Committees usually meet 3 or 4 times a year, and anytime an

ethic evaluation of research projects is required. Such Committees aim to improve the planning of research projects, to guarantee that valid experiments are undertaken, to promote a more humane treatment of animals, to develop the scientific inquiry on alternative methods and to enhance the collaboration between researchers and experts of animal care and welfare[25].

9. *Conscientious Objection to animal experimentation*, Legge 12 Ottobre 1993 n.413 (G.U. n.244 del 16 ottobre 1993) Norme sull´obiezione di coscienza alla sperimentazione animale[26]. The Italian legislation is the only one promoting Conscientious Objection to animal experimentation in Europe, through the law *n. 413/1993*. This law recognises the right not to perform experiments on animals and the right to use alternative methods, in workplaces and Universities. Students as well as researchers can declare their opposition to violence on animals to the research director or course teacher, and nobody should be discriminated in workplaces because of that. The procedure for exercising the right of conscientious objection is as follows:
10. The unwillingness to carry out animal experimentation has to be declared whenever a job application is submitted. University students have to declare their conscientious objection to the instructor, at the beginning of a course involving activities related to animal experimentation.
11. All government agencies and private organisations authorised to conduct animal experimentation must inform all personnel and students about their right to exercise conscientious objection to animal experimentation.
12. Nobody should be discriminated as a result of his/her refusal to carry out any test involving animals (Menicali**,** n.d.).

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25 Atti della Tavola Rotonda "Comitati etici e sperimentazione animale: esperienze e prospettive future." 19 ottobre 2001. EBRA, Milano – Italy.

26 Conscientious Objection to animal experimentation, Legge 12 Ottobre 1993 n.413 (G.U. n.244 del 16 ottobre 1993) Norme sull´obiezione di coscienza alla sperimentazione animale, http://www.antivivisezione.it/legge2.html

5.10 Finnish Legislation

The Statute on Animal Experimentation requires that institutions involved in research and animal experimentation dispose of a Committee for Animal Experimentation. Experiments causing severe distress or pain need a special approval of the Ministry of Agriculture and Forestry. Finnish legislation on animal protection and experimental work on vertebrates consists of the following laws and acts[27]:

1. Law On Animal Protection, Eläinsuojelulaki 247/1996
2. Act On Animal Protection, Eläinsuojeluasetus 396/1996
3. Act On Animal Experimentation, Asetus koe-eläintoiminnasta 1076/1985. This is partly changed by act 395/1996. Current Finnish legislation dates from 1986 with the *Act on animal experimentation "Asetus koe-eläintoiminnasta 1076/1985"* and agrees with the European Council Directive on the protection of vertebrates. It aims to ensure that the number of animals used on experimentation is reduced to a minimum, that such animals are properly cared and that no pain or suffering is inflicted unnecessarily. Its main characteristics are (Lahteensmaki, 1987):
    a) The requirement for an establishment license (form the Ministry of Agriculture and Forestry) for the practice of animal experimentation.
    b) Required qualification for those who perform animal experimentation; those having completed an applicable university examination and participated to a course approved by the Ministry of Agriculture and Forestry concerning the use of animals in scientific research are in principle allowed to perform animal experiments. Every establishment performing experiments on animals must have at least one person who has the required qualifications for carrying out the

[27] *Marine Research Institute, http://www.hafro.is/index_eng.php*

experiments.

c) A research project and an application for a licence permitting animal experimentation; for each test on vertebrates, a plan of the experiment must be written down and submitted to the local Committee for animal experimentation. The application must include a description of: 1) the purpose of the experiment, 2) the experimental procedure, 3) the degree of pain involved, 4) the painkiller used, and 5) the estimated number of animals involved.

d) According to the degree of pain inflicted to animals, experiments are divided into two classes: 1) painful and irreversible experiments on animals, such as the administration of poisonous compounds; and 2) less painful procedures, such as the taking of blood sample.

e) Establishments performing animal experimentation must form a Committee for animal experimentation, which decides if the experiment belongs to the first or the second class. The Committee can grant a permission to carry out the second class of experiments, but can only make a statement about the first class of experiments, leaving thus the decision to the Country Government.

f) Decree of Veterinary Division in Ministry of Forestry and Agriculture on classification of animal experiments, Maa- ja metsätalousministeriön päätös tieteellisten eläinkokeiden luokituksesta 447/1986

g) Introductory Act On European Convention For The Protection Of Vertebrate Animals Used For Experimental And Other Scientific Purposes, Asetus kokeellisiin ja muihin tieteellisiin tarkoituksiin käytettävien selkärankaisten eläinten suojelemiseksi tehdyn eurooppalaisen yleissopimuksen voimaansaattamisesta 1360/1990.

5. 11 Animal research in psychology

According to the American Psychologist Association (APA), the most authoritative association of psychologists, about 7-8% of psychological research involves the use of animals (The American Psychological Association, n.d.). Since Charles Darwin's work emphasizing continuity in evolution from animals to people in their mental and physical characteristics, psychologists have researched on animals when time requirements, risk, the need to control behavioural history or other practical and ethical reasons make it impossible to use humans. Behavioural research has contributed to the understanding of the basic principles underlying behaviour and of the relationships among anatomy, physiology and behaviour.

The Committee on Animal Research and Ethics (CARE) is the APA's committee charged with the ethical analysis of the use of animals in psychological research. The Committee aims to enhance public support for research with animals. The Committee has developed the *Guidelines for ethical Conduct in the Care and Use of Animals*[28], stating the appropriate ways of acquisition, care, housing and use of animals. Psychologists should conduct their research in agreement with the relevant laws and with ethical concerns as well. The document describes the requirements for:

1. The justification of the research; before undertaking a research with animals, psychologists should reasonably expect the research will a) increase the knowledge of behaviour, b) increase understanding of the species under study, c) provide results that benefit the welfare of humans or other animals. The use of alternative methods is encouraged.
2. The personnel; the psychologists should ensure that the personnel involved in their research has been trained about animal welfare and about the experimental method, and is familiar with APA guidelines.

[28] *Guidelines for Ethical Conduct in the Care and Use of Animals, http://www.apa.org/science/anguide.html*

3. The care and housing of animals; the facilities housing animals should meet or exceed current legislation in the field.
4. Acquisition of animals; animals not bred in the psychologist's facility should be acquired lawfully and much attention should be paid to the animal well-being during transportation.
5. Experimental procedures; behavioural studies are encouraged and, among them, those that minimize the discomfort for the animals should be preferred. Euthanasia procedure should be performed as soon as an animal is observed to be in a state of severe distress or chronic pain.
6. Field research, because of its potential to damage sensitive ecosystems, should be subjected to Animal Care Committee approval.
7. Educational use of animals; the psychologists are encouraged to include instruction and discussion of the ethics and values of animal research in courses.

6. "WE LANDED ON THE MOON, MOSQUITOES DIDN'T": QUALITATIVE DATA ON ANIMAL TESTING[29]

6.1 Abstract

In order to investigate people's social representations and attitudes toward animal use in scientific research, two focus groups, in Italy and in Finland, were organised. They were composed by prospective doctors, laypeople and animal right activists. The qualitative methodology of focus group, based on interaction among participants, leads them to explore their own and others' opinions regarding the current issues, i.e. animal experimentation. Comparative findings seem to highlight similar social representations and attitudes between the Italian and the Finnish sample. In particular 1) prospective doctors were faithful in science and favoured animal experimentation; 2) laypeople shared an empathetic attitude towards animal suffering; and 3) animal right activists, obviously, opposed animal experimentation, and seemed to be more informed about alternatives methods.

[29] *Some data from this paper were previously presented at the European PhD on Social Representation Summer School – June 2002 – Rome, Italy.*

6.2 Science-animal relationship

This article applies a psycho-sociological analysis to one aspect of human-animal interaction, that is, the animal use in scientific research. Primarily in medical and psychological scientific research, animals have been considered for a long time as models for human physiology, and animal testing has played a crucial role in the development of modern medical treatments.

On the other hand, across Europe, scientists and laypeople share a growing interest for animal suffering and the number of animals used in laboratory experiments is decreasing since 1970s (Scientific American, 1997).

6.3 European Community Legislation: Italian and Finnish examples

Since the Declaration of Helsinki (1964), which states the Ethical principles of Medical Research involving human subjects, animal experimentation has been thought as a relevant source of information in pursuing medical research. According with this Declaration, the welfare of animals used for research must be respected.

The Council Directive 86/609/EEC regarded the protection of animals used for experimental and other scientific purposes. It bind on member states as to the results to be achieved, but left the methods of implementation to national governments. The Directive should be transposed into national law. This Directive, while accepting the need for animal exploitation in experimental contexts, pointed out the uses of animal experimentation and recognised that all possible efforts should be done in order to limit such use, with the ultimate aim of replacing experiments with alternative methods. The Directive applied to vertebrate animals and covered, among other things, animal accommodation and experimenters' conducts. Articles 8 and 9 forbade procedures without anaesthetics, except in such cases when the administration was more painful than the procedure itself, or was

"incompatible with the aim of the procedure". In the latter case, appropriate measures (e.g. specific authorisation by the responsible authority) must be taken in order not to carry out such procedures unnecessarily.

6.3.1 Finnish Legislation

Current Finnish legislation dates from 1986 with the Act on animal experimentation "Asetus koe-eläintoiminnasta 1076/1985" and agreed with the European Council Directive on the protection of vertebrates. Its main characteristics were:

1. The requirement for an establishment license (form the Ministry of Agriculture and Forestry) for the practice of animal experimentation. Every establishment must have at least one person who has the required qualifications for carrying out the experiments.
2. Required qualification for those who perform animal experimentation. Physicians, veterinarians, and those having completed an applicable university examination and participated to a course approved by the Ministry of Agriculture and Forestry concerning the use of animals in scientific research, are in principle allowed to perform animal experiments.
3. A plan of experiment and an application for a licence permitting animal experimentation. For each test on vertebrates, a plan of the experiment must be written down and submitted to the local committee on animal experimentation. The application must include a description of a) the purpose of the experiment, b) the experimental procedure, c) the degree of pain involved, d) the painkiller used, and e) the estimated number of animals involved. According to the degree of pain inflicted to animals, experiments are divided into two classes: 1) painful and irreversible experiments on animals, such as the administration of poisonous compounds; and 2) less painful procedures, such as the taking of blood sample.

4. Establishments performing animal experimentation must form a Committee for animal experimentation, which decides if the experiment belongs to the first or the second class. The Committee can grant a permission to carry out the second class of experiments, but can only make a statement about the first class of experiments, leaving thus the decision to the Country Government.

6.3.2 Italian Legislation

The transposition in law of the Council Directive 86/609/EEC dates from January 1992, with the Legislative decree DLT 27/01/1992 Num.116 "Attuazione della direttiva n.86/609/CEE in materia di protezione degli animali utilizzati a fini sperimentali o ad altri fini scientifici" and its implementing document “Circolare 14 Maggio 2001, n.6”. They described the accepted experimentation procedures and fixed the quality standards for animal accommodation. Its main characteristics were:

1. It primarily concerned laboratory work on laboratory-reared mammals.
2. Animal welfare must be safeguarded throughout the evaluation of the quality of breeding establishment.
3. Animal experimentation must be carried on where alternative methods are inapplicable.
4. Animals used in experimental procedure must be anaesthetised.
5. The Ministry of Health can grant a permission to carry out experiments on non-human primates, such as cats or dogs without anaesthesia, in such cases when anaesthesia is incompatible with the purpose of the experiments.

Italian legislation was the only one promoting Conscientious Objection to animal experimentation, through the law n. 413/1993. "Regolamentazione sull’Obiezione di Coscienza alla sperimentazione animale". This law recognised the right not to perform experiments on animals and the right to use alternative methods, in workplaces and Universities.

The procedure for exercising the right of conscientious objection was the following:

1. Conscientious objection must be declared when a job application is submitted. University students must declare their conscientious objection to the instructor, whose course involves activities related to animal experimentation, at the moment that course begins.
2. All government agencies and private organisations authorised to conduct animal experimentation must inform all personnel and students about their right to exercise conscientious objection to animal experimentation.
3. No person shall receive negative consequences as a result of his/her refusal to participate in or to co-operate with the implementation of animal experimentation.

6.4 Philosophical and ethical background opposing animal experimentation

The most recent debate between supporters and detractors of animal experimentation has been promoted by some XX century philosophers, aiming to provide animal species with basic human rights. Philosophers such as Singer (1975) *"Animal liberation: a new ethics for our treatment of animals"* and Regan (1983) *"The case for animal rights"* endorsed a principle of equality, where animals were viewed as having intrinsic value, as opposed to mere instrumental value for humans, and a basic right for equal treatment.

In 1978, the *Universal Declaration of Animal Rights* was solemnly proclaimed in Paris at the UNESCO headquarters. The declaration expressed the principle of the equality of species with regard to Life, and stated that "experiments on animals entailing physical or psychological suffering violate the rights of animals". In addiction to this, it promoted the development and implementation of alternative methods.

Among the Scandinavian countries, the *Swedish Animal Welfare Act* (1988), claimed that animals can be used only for

1. scientific research or education,
2. the diagnosis of disease,
3. the production of drugs or chemical products, or
4. for such cases when a) the purpose of the activity cannot be attained by any other satisfactory method that does not entail the use of animals; b) the activity is organised in order not to expose animals to unnecessary suffering; and c) only animals bred for the purpose are used for the activity.

6.5 The semiotic anthropocentric model

Many recent studies have focused on anthropocentric tendency in the field of social sciences (e.g. Bjerke & Kaltenborn, 1999; Schultz & Zelezny, 1999). A recent contribute to the debate comes from semiotic science. Martinelli´s Model (2002) for the categorisation of anthropocentric attitudes proposed a new categorisation of human attitudes toward animals, according to the concept of anthropocentrism. In short, the author's basic ideas were:

1. People display an anthropocentric attitude in perceiving non-human animals. Anthropocentrism can be defined as "a set of mental attitudes that consider human beings as a distinct and independent part in the Animal Kingdom and in the whole Nature, or – more often – as no animals at all, but rather a sort of unique entity, not classifiable in biological terms" (Martinelli, 2002, 60).
2. There are two types of anthropocentrism:
    a) Default anthropocentrism "consists in the banal consideration that the subject who observes a given animal is evidently a human being, with his/her resources, his/her limit and his/her modes of categorisation".

b) Binary anthropocentrism, which in its turn is divided into qualitative and quantitative anthropocentrism. In the case of qualitative anthropocentrism, the observer-human being tends to distinguish him/herself from the non-human animal by means of qualities (either/or) – for example, human beings can think, animals cannot. In the case of quantitative anthropocentrism, the difference human being-other animals is expressed by means of quantities (more/less) – for example, human beings are cleverer than animals.

6.6 Public attitudes towards animal experimentation

On the route of the ongoing debate between advocates and detractors of animal experimentation, social scientists have recently begun to investigate attitudes toward animals and a small body of literature is devoted to attitude towards animal testing. Opinion researchers have collected data on public support for animal experimentation, showing that people attitudes towards animal testing depended on the perceived necessity and significance of the research (Groller, 1990), on the animal involved (Pifer, Shimizu & Pifer, 1994; Plous, 1996) and on the level of pain involved in the experimentation procedure (Pifer, Shimizu & Pifer, 1994). In other words, people were more likely to support animal testing when the research in question was perceived to have high value (e.g. to save lives), the animal involved was dissimilar to humans (e.g. rodents) and the experimental procedure did not involve pain.

Generally, personality appeared to be weakly related to attitudes towards animals. Only two Personality Factors, Sensitivity and Imaginativeness, were significantly correlated with the attitudes analysed (Mathews & Herzog, 1997).

Pifer, Shimizu and Pifer (1994) made a comparative analysis of public attitudes toward the use of animals in scientific research in 15

different European nations. The highest level of opposition to animal research was found in France, where 68% of population either agreed or disagreed with the use of animals in scientific research. In most of the European Community, over 50% of the population were similarly against animal research (Italy 59%; Finland did not participate to the study). Gender showed a clear trend across all cultures studied, with women generally opposing animal research more than men did. Concern about the environment was found as being related to the opposition to animal research in some western European nation, including Italy. Scientific knowledge, or the lack of it, was not found to have a consistent relationship with attitudes toward animal research.

Interpersonal empathy was found to be a significant predictor of attitudes toward the treatment of animals. Generally, people having greater abilities to empathise express greater concern for issues related to animal welfare (Galvin and Herzog, 1994).

6.7 Social representations theory

Among the different theories and constructs, which systematically study the humans' interaction with their social environment, the theory of social representations focuses on collective forms of thought and belief and on communications produced under the constrain of society. Social representation is *"a set of concepts, statements and explanations originating in daily life in the course of inter-individual communication"* (Moscovici, 1981, 181). Moscovici argued that in social representations we discern not only "opinions about", "images of", or "attitudes towards", but "theories", "sciences sui generis", devoted to the discovery of reality and its order (1981).

Fraser (1994) discussed some of the relations between attitudes and social representations and considered social representations as a structured set of social attitudes. According to Fraser, social representations are views of the world, used to study widely shared views of the world within groups, while attitudes measure differences amongst

individuals within groups. In Fraser´s own words, “we should study structured sets of attitudes that are widely shared, and, in doing that, we will be studying social representations”.

The role and importance of social representations emerge in the form of common-sense knowledge (Moscovici, 1976). Social representations are intrinsic to everyday conversation. When people interact through gossip, argue, discuss different issues, read newspapers, watch TV, they are building socially shared pictures of the world. While shared representations provide stable versions of the world, which can form a topic of conversation, communication between people with different representations is likely to generate conflict, often leading to changes in the existing representations or even to the creation of new ones.

Among the participants to the on-going debate on animal welfare, few investigations have been devoted to the qualitative study of social representation of animal experimentation. Studying the way people construe their arguments about animal experimentation during everyday conversations, can lead to a better understanding of the similarities and differences between the attitudes of animal experimentation advocates and detractors.

In the light of the recent unifying tendency across Europe, this study aims to develop a transferable methodology to investigate social representation of animal experimentation in the European countries. Assuming that the way supporters and detractors conceive animal experimentation significantly affects their social behaviours, this study examines how such categories of people socially understand and represent the phenomenon of animal experimentation. On such premises, the social construction of attitudes towards animal experimentation across Europe will be explored.

6.8 Method

Two focus groups in two European countries, Italy and Finland, were conducted. Three categories of people involved in the “science and

animal debate" were interviewed: 1) prospective doctors, supposed to be in favour of animal experimentation; 2) lay people, supposed to orient their commercial choices on the basis of their attitudes towards animal welfare; and 3) animal right activists, sharing a strong ethical opposition to animal experimentation

6.8.1 The focus group technique

The focus group technique has been described as "a carefully planned discussion designed to obtain perceptions on a defined area of interest in a permissive, non threatening environment" (Krueger, 1988, 18). Guided by a skilled interviewer, participants can share their ideas and perceptions, influencing each other by responding to ideas and comments during the discussion. In principle, with proper guidance from the focus group leader, group members can describe the reasoning behind their action, beliefs, perceptions and attitudes. According to Lunt and Livingstone (1996), focus groups, simulating everyday conversations, can help social scientists to discover the processes by which meaning is socially constructed throughout everyday talk.

Paying careful attention to the interactions inside groups, similarities and differences between participants' attitudes and social representations on animal experimentation could be explored. The conflicts between participants can clarify the assumptions and arguments people use against each other.

6.8.2 Focus group reliability and validity

The focus group technique belongs to the qualitative methodologies, for it aims not to measure a social phenomenon but to study in deep the motivations and the frames of reference behind that social phenomenon. The findings coming from a focus group can hardly be generalized to the entire population, unless we assume that such interaction could take place in everyday conversation, on a definite topic.

6.8.3 The research

Two focus groups were realised in Bologna (Italy) in July 2001 and in Helsinki (Finland) in January 2002. The composition of the focus groups and the research methodology were the same in Italy and in Finland. Light refreshments were managed before and after the work session. Verbal interactions were tape-recorded.

Table 3. *Sample description and relevant remarks*

		Italian focus group	**Finnish focus group**
Sample	**Prospective doctors**	2	4
	Laypeople	2	3
	Animal right activists	1	1
Gender	**Prospective doctors**	Both females	2 females and 2 males
	Laypeople	Both males	3 females
	Animal right activists	Female	Female
Age	**Prospective doctors**	26-27 years old	22 to 29 years old
	Laypeople	27-28 years old	21 to 26 years old
	Animal right activists	32 years old	23 years old
Meeting place		Social centre	University room
Session lasting		h. 1.20	h. 1.30
Languages		Italian	English

6.8.4 Recruitment

The researchers invited some university students to participate to “a discussion group concerning the human-animal relationship, lasting one hour and a half”. Prospective doctors were recruited among those students enrolled in the Faculty of Medicine, animal right activists were chosen among members of Animal right associations and students from

different fields were invited. In few cases, two or more participants already knew each other. During the discussion, participants realised each other's attitudes towards animal experimentation.

6.8.5 Moderator's and observer's role

During the meeting, the moderator/researcher promoted the debate, by asking open questions and challenging participants to draw out people's differences. Sometimes the moderator probed for details or moved things forward when conversation was drifting. She kept the session on its focus, and sometimes deliberately had to steer the conversation back on course. She had also to ensure that everyone participated and get a chance to speak. At the same time, she did not show too much approval, in order to avoid favouring particular participants. She avoided giving personal opinions, in order not to influence participants toward any particular position or opinion.

The observer was silent and recorded participants´ non-verbal behaviours and the main themes discussed. The moderator introduced him as one of her colleagues, and participants were told that the observer would have been silent. He was provided with a written schedule, pointing out the aspects that should be noted, i.e. the way people sit, the group climate, the role taking in the discourse, their interpersonal behaviour, their eyes' contacts, their gestures, any possible interruption, the themes discussed etc.

6.8.6 Guideline questions

The moderator was provided with a written checklist concerning the topics that should be investigated. Such topics were: attitude toward animal experimentation, argumentations pros and against animal experimentation, alternative methods, perceived reliability of alternative methods, Animal Care Committees at institutions, Church position on animal experimentation.

6.8.7 Final questionnaire

A questionnaire was given to the participants at the end of the focus group session, asking their demographic data, and their main attitudes toward the animals. The questionnaire aimed to control the actual people's attitudes towards animal experimentation and to draw a socio-demographical profile of the participants. Then, it explored the possible role of the group discussion on people attitudes change, after the group discussion, and their personal involvement in the animal experimentation issue. Questionnaires were anonymous.

6.8.8 Debriefing phase

At the end of the focus group, the moderator closed the session and thanked the participants. The moderator and observers answered the participants` questions explaining the aims and the methodology involved. The debriefing phase took about 10 minutes.

6.9 Results

Data were analysed in three phases:

1. Moderator's and observer's impressions - After the focus group, the moderator and the observers discussed for few minutes, in order to highlight their feelings about the group discussion and to focus on the most relevant data.
2. Cut-and-paste technique on the verbatim transcription (Steward and Shamdasani, 1990) - Tape-recorded data were transcribed word-by-word, together with the observer's field notes. Then, the moderator coded the material into analytical sections, which were relevant for the research questions. After that, all relevant material was pasted to a particular topic an analysed. The topics were suggested by the focus group guidelines.
3. The comparative analysis of the data from the two groups.

6.9.1 Prospective doctors´ positions

Prospective doctors were strongly pro-animal experimentation. They considered it emotionally cruel but necessary in order to promote bio-medical research and to protect human life.

> IP2CC: "experiments using animals have played a crucial role in the development of medicine science".
>
> FP4CC: "I do not have a problem with animals being used for food or fur production or medical testing."

Briefly, their opinion consisted of three arguments: 1) morality: we need to protect human life and to fight illness in every way; 2) necessity: progresses in human health are worth animal suffering, and there are no valid alternative methods; and 3) validity: animals are biologically similar to humans.

Prospective doctors had a small knowledge about alternative methods but they thought that scientific research cannot avoid animal experimentation. They did not rely on alternative methods.

> *IP4CC: "I don´t know".*
> *IP2CC: "I don´t know this issue very much, there is this in vitro testing."*
> *FP2CC: "We do not have the enough tecnology now to avoid animal testing"*
> *IP4CC: "We can not rely on it because it is different from in vivo testing"*
> *FP5CC: "There are so many factors in human physiology that you have to consider…"*

Prospective doctors displayed non-knowledge on Animal Care Committees, and Italian Law n.431/1993. However, they considered conscientious objection as a researcher's right.

> *IP4CC: "I don´t know"*
> *IP2CC: "this is a researcher's right"*

6.9.2 Animal right activists´ positions

Animal right activist were ethically against-animal experimentation, since it did not respect animals´ dignity.

> *IP5AA: "I´m against A.E. to 99,9% for ethical reasons"*

FP7AA: "I don´t think this (animal experimentation) is the only way…"

Activists based their opinion on three arguments: 1) morality: humans have a moral obligation not to cause animals unnecessary pain; 2) non-necessity: humans do not need to use animals since there are many alternatives to animal experimentation; and 3) validity: animals are not biologically similar to humans, thus we cannot exploit properly the results of animal testing.

IP5AA: animal experimentation "reduces a living being to an object"

IP5AA: "animals and humans are biologically different"

IP5AA: "humans and animals testing could lead to different results"

Animal activists knew alternative methods better than other participants, which used to listen activists` descriptions of these methods. They mentioned: in vitro testing, ethological observation, epidemiological studies, computer modelling. Animal activists relied on alternative methods more than other participants.

6.9.3 Laypeople positions

Laypeople were pro-animal experimentation, even if they emotionally considered it cruel. They affirmed that it would be immoral to conduct tests on humans, thus animals were good models for human physiology. Their positions were very similar to prospective doctors and lie somewhere between the doctors and activists positions. Laypeople showed their emotional involvement in animal experimentation, describing animal testing as cruel.

IP3LM: "animal experimentation should be reduced to the minimum, for emotional reasons"

FP1LP: "I don not like animal testing but accept it as a necessity for the well-being of mankind".

FP1LM: "I do not think we humans have the right to cause other animals unnecessary suffering."

Laypeople had little or no information about alternative methods and they did not rely on them. They did not know Animal Care Committees.

IP1LM: "I don't know"

FP6LM: "I would not right away ban all animal testing in the present situation where there might not be proper alternatives"
FP1LM: "in principle animal testing for medical purposes is acceptable, but I would rather see other techniques to be developed instead of animal testing or at least so that a larger number of the tests could be replaced by other methods.

6.9.4 Attitude toward science

Participants' attitudes towards animal experimentation were strictly linked with their attitudes toward science. Prospective doctors favoured animal experimentation and they were faithful to science. Animal right activists opposed animal testing and were more critical towards scientific mistakes. Sometimes they expressed little trust in traditional science.

Prospective doctors:
IP2CC: "experiments using animals have played a crucial role in the development of medical science"
IP4CC: "we pay a cost for our well-being, animal experimentation is part of this cost".

Animal right activists:
IP5AA "Is another kind of biology and medicine without any animal experimentation possible?"
IP5AA: "humans and animals testing can lead to different results"
IP5AA: "some experiments are carried on for years, even if researchers know that such experiments are useless".

6.9.5 Anthropocentric attitudes

Prospective doctors and laypeople were more centred on humans than animal right activists and often refered to humankind as a superior species. This superiority allowed us to use animals for our well-being.

Prospective doctors:
IP4CC: "we landed on Moon, mosquitoes didn't!"
IP2CC: "we can reason, we can act better than animals"
FP4CC: "as a superior species the humans have the right to use animals for their own comfort and well-being. We have the role of

the responsible shepherd, e.g. the right to do with the animals as we please in a responsible manner."

Laypeople:
FP6LP: "I think it is more or less taken for granted, that people, as 'superior' to animals have the moral legitimisation to do whatever they want to animals in the name of science."
IP1LP: "Animals are inferior to humans"

6.9.6 Church positions

Among the differences between the Italian and the Finnish focus group, a different role played by Churches in the two countries could be detected. Italian participants were more aware of Roman Catholic Church position about animals. They knew and shared the catholic idea that animals were not provided with any soul, so they had no rights. Even if Roman Catholic Church placed animals on a lower status than humans, Italian participants claimed that animals should be treated kindly.

IP2CC: "Church says we can eat and use animals, but we have not to ( ) provoke unnecessary pain to them"
IP4CC: "according to catholic teachings, we have to respect nature"

It took some time to Finnish participants in order to realise what Lutheran Church and Orthodox Church say about animals. They claimed that religion did not play a crucial role in their lives.

FP3CC: "Actually…religion doesn't play a crucial role in our lives…"

6.9.7 Final questionnaire

Participants did not change their attitudes after the focus group, as measured by a written self-report questionnaire. After the interaction, their opinions became stronger and more secure. Obviously, animal right activists were the most concerned about animal experimentation issues.

6.9.8 Some remarks about the method

Both the focus groups were quite successful as regards to general management and participants` willingness to discuss. Both researches were very rich of information about people's social representations and attitudes toward animal experimentation and alternative methods.

On the other hand, participants' recruitment has been quite difficult. The focus group technique, requiring 5 to 12 people to debate together in the same room for a couple of hours, was quite demanding. In addiction to this, people were not very familiar with this research technique, so they were quite suspicious.

The method has been successfully adapted for the Finnish session through a deep investigation of Finnish legislation regarding animal experimentation. The main Finnish religious beliefs have also been considered.

Participants were fluent in English and did not perceive English language as a limitation.

6.10 Discussion

Both the focus groups, far from being representative of the feelings and perceptions of the Italian and Finnish whole populations, can be regarded as pilot studies to test the validity and reliability of a qualitative methodology devoted to investigate social representations of animal experimentation across Europe. The focus group technique, well known in media and communication research, seemed to be very useful to deepen people's arguments pro- and against animal experimentation, and to understand how people talk about animal experimentation.

The international comparison between people's attitudes towards animal experimentation has showed much more similarities than differences. Despite of geographical, cultural, legislative and religious differences between Italy and Finland, social representations and attitudes about animal experimentation were reciprocally consistent. The

portraits of the three categories of participants were similar across countries.

Prospective doctors shared favourable attitudes towards animal experimentation, depicted as cruel but necessary. Since animals were biologically similar to humans, animals could be used in science as good models for many aspects of human health or physiology. They claimed there were no valid alternative methods.

Laypeople's attitudes laid somewhere between the position of prospective doctors and animal activists. Laypeople showed their emotional involvement in animal experimentation, describing animal testing as cruel. Both prospective doctors and laypeople were not very familiar with alternative methods and they did not rely on them.

Obviously, animal right activists were against animal experimentation, for ethical and emotional reasons, and they supported alternative methods. They shared a lot of information about alternative methods and they relied on them.

Consistent with the findings of Broida, Tingley, Kimball and Miele (1993), we found that participants' attitudes towards animal experimentation were negatively correlated with their attitudes toward science. While prospective doctors supporting animal experimentation claimed their trust in institutional science, animal right activists were more critical towards scientific mistakes and expressed little trust in science.

In line with the findings of Schultz and Zelezny (1999) and Galvin and Herzog (1994), it was found that attitudes towards animal experimentation were strictly linked with interpersonal empathy. During the focus groups, animal activists, showing a bigger degree of empathy towards animal suffering, displayed a strong opposition to animal experimentation.

Prospective doctors and laypeople shared a binary anthropocentric attitude towards animals. Very often, they considered human beings as a unique entity, distinct and independent part in the Animal Kingdom and in the whole Nature. In few cases, they represented animals by means of

qualitative differences: (e.g. human beings can think, animals can not do it; humans landed on the moon, animals did not).

7. ANIMAL RIGHTS ACTIVISTS' REPRESENTATIONS OF ANIMALS AND ANIMAL RIGHTS: AN EXPLORATORY STUDY[30]

7.1 Abstract

During the last 30 years, the modern animal rights movement (ARM) has called into question the use of animals for human benefit and has campaigned for the improvement of the welfare of animals. In the study reported in this paper, activists' representations of animals and animal rights were explored with a total of 23 subjects in four focus groups in Italy. Results show that the activists' representation is generated from the love/pain themata, opposing the compassionate love of activists for animals on the one hand and animal suffering on the other hand. Differences existed in the way members of animal welfare and rights groups construed their view of animals. While CSA and ENPA members aimed to protect abandoned animals, LAV members faced the contradictions within the human-animal relationship and endorsed a more coherent approach to our fellow creatures. These findings were

[30] *Some of the data presented in this chapter have been included in an article which is currently under peer-review by the Anthrozoös journal.*

interpreted in the light of classical studies on the ARM and of recent developments of the social representation theory.

7.2 The animal rights movement

Since the 1970s, the Animal Rights Movement (ARM) has challenged the use of animals in modern Western society, raising questions as to the exploitation of animals for human benefits. The works by Singer (1975), Regan (1983) and Midgley (1983) have provided the philosophical basis for a moral reasoning on animals and animal welfare and have maintained the individual animal's intrinsic value and rights. In this line, human beings have a moral obligation not to cause animals unnecessary pain and distress. One of the major, even though mostly forgotten, achievements of the movement was the proclamation of the Universal Declaration of Animal Rights (U.D.A.R.) in Paris on 15th October 1978 at UNESCO headquarters (APPENDIX 2). The Declaration provided human beings with a code of biological ethics based on the respect of life in all its shapes and promoted the respect for wild animals and their habitat (no hunting and fishing). It discouraged 1) the use of animals for leisure (no zoos, circuses and bullfights), 2) the taming for human feeding (intensive farm practices), for sports (horse riding) and for clothes (furs), 3) the use of animals for scientific and cosmetic research. The text, which was revised by the International League of Animal Rights in 1989, was submitted to the General Director of UNESCO in 1990 and made public that same year (League For Animal Rights, n.d.).

As the ARM has grown, it has become the subject of social scientific scrutiny. Scholars have found that animal activists tend to be disproportionately female, well-educated, upper middle class and liberal (Galvin & Herzog, 1992, Jamison & Lunch, 1992; Kruse, 1999; Nibert, 1994; Peek, Bell & Dunham, 1996; Plous, 1991). Ethnographic studies have suggested that assuming an animal rights perspective was in a way similar to religious conversion. These similarities included a fundamental shift in world view, dramatic changes in lifestyle (e.g. diet) and the

conviction that the new perspective was morally correct and that other types of behaviour (e.g. vivisection) were morally wrong (Herzog, 1993; Jasper & Poulsen, 1995).

Sutherland and Nash (1994) maintained that the ARM contained a powerful new worldview that redefined the relationship of human beings with nature and animals. The ARM rejected the traditional cosmology of Western society, which gave humans dominion over nature and animals, and offered a new environmental cosmology where animals were placed at the centre of the moral universe of society. Society became the symbol of evil, and redemption took the form of activism to save animals. In this view, the animal rights cosmology functioned as a belief system and provided means of dealing with questions of justice, good/evil and suffering.

Participants in the ARM had distinctive, well-articulated and sometimes impassioned beliefs about non-humans. Jasper and Nelkin (1992) gave a picture of three distinct types of participants in the movement: firstly, the welfarists who were primarily concerned with promoting a humane treatment of animals; secondly, the pragmatists who presented a moral argument for balancing human and animal interests but accepted some hierarchy in human and animal species; and finally, the fundamentalists, who did not make a distinction between humans and animals.

7.3 The social representation theory

Despite its limits, the Social Representations Theory (SRT) (Moscovici, 1976) could offer a useful theoretical background for the study of the beliefs and understandings about animals produced within the ARM. Social representations were defined as theories of common sense applied to general topics, for example intelligence, AIDS, which are discussed in society. They did not simply represent ”opinions about”, ”images of”, or ”attitudes toward”, but ”theories”, or “branches of knowledge” in their own right, able to create shared knowledge because of individual

cognitive elaboration and social interactions within groups. By definition, social representations were socially constructed as they emerged from the social interaction within groups and they were increasingly dominated by media communication (Wagner & Kronberger, 2001). When people interact through gossip, when they argue, discuss different issues, read newspapers, or watch TV, they build up shared pictures of the world. Thus, social representations were intrinsic to everyday conversation (Moscovici, 1981).

Social representations had a twofold function: to establish an order that will enable individuals to orient themselves in their material and social world and to make communication possible by providing them with a common code for exchanges (Moscovici, 1973, xiii). When incongruous and unusual things which need to be understood catch our attention, social representations try to transform such a phenomenon into something known, by means of two processes: 1) anchoring the new event into something familiar; or 2) objectifying the event in a concrete object or symbol (Moscovici, 1984).

According to the theoretical framework developed by Doise, Spini and Clémence (1999), even if members of a given population share common knowledge and views about a certain social issue, the members could vary in their adherence to various aspects of the social representation and hold different positions. In this sense, social representations were considered as organizing principles of individual differences or position takings, anchored in collective symbolic realities, in social experience and in beliefs about social reality (Doise, 1992). Social positioning was the process by which individuals took positions about a network of significance and derived from the anchoring of shared knowledge within different groups. Groups differed not only in the amount of information they had access to, but also in the specific beliefs and experience their members shared. Social positioning was the expression of an opinion and its anchoring in the belief system of a given group (Clémence, 2001).

Recently, Markova (2000) suggested that social representations could be generated from themata, or semiotic pre-categorizations,

composed by two opposite words, i.e. male/female, justice/injustice, nature/culture, seated in the collective memory of individuals and groups. People are used to think implicitly in opposition or antinomies, as part of socialization to culture. For instance, people define what is safe to eat by reference to what is poisonous. In principle, any oppositional taxonomy can become a thema, but only those that in the course of history become a focus of attention and a source of tension and conflict, end up being themata (Moscovici & Vignaux, 1994).

The aim of this paper was to investigate qualitatively the activists´ representational fields on animals and animal rights in order to further the understanding about the belief system behind the ARM. Such an approach allowed us to investigate in-depth the worldviews of animal welfare and rights activists, as they were shaped and communicated in everyday life. We suggested that the wide range of beliefs and commitment to participation in the movement, expressed different representations of the human-animal relationship as shared by different groups. The arguments that constituted these social representations are investigated.

7.4 Method

First of all, the Chief of the Office for Animal Rights of the Municipality of Modena and the President of the Anti-Vivisection League (LAV)[31] were interviewed to collect preliminary information on the animal welfare and animal rights associations in the district of Modena. Then four focus group discussions of 3-9 persons (N = 23) were arranged in the district of Modena, Italy, in May 2003 following the methodology by Bloor, Frankland, Thomas & Robson (2001). The groups consisted of 15 women and 8 men, ranging in age from 21 to 51, with an average age of 39. Of these, 14 reported that they were vegetarian and non-religious.

[31] *In Italian: Lega Anti Vivisezione (LAV)*

The sample was small due to the difficulty to recruit respondents and to the exploratory aim of the study.

Focus group discussions are recommended when the aim is to understand the formation of group meanings, as well as when little is known about the phenomenon being studied (Bloor, Frankland, Thomas & Robson, 2001). Moreover, simulating everyday interactions, the focus group technique provides in-depth insights into the participants' shared beliefs about the world. In this sense, the focus group technique matches the social origin of representations.

In short, a focus group was understood as "a carefully planned discussion designed to obtain perceptions on a defined area of interest in a permissive, non threatening environment" (Krueger, 1988, 18). Focus groups are a form of group interview that take advantage of communication between participants in order to generate data. Guided by a skilled interviewer, participants share their ideas and perceptions, influencing each other by responding to ideas and comments in the discussion. Participants are encouraged to talk to one another, to ask questions, exchange anecdotes and comment on each other's experiences and points of view. The researcher could use the conflict between participants to clarify why people believe what they do (Kitzinger, 1994; Merton, 1987; Morgan, 1997). Group work ensures that priority is given to the respondents´ hierarchy of importance, their language and concepts, their frameworks for understanding the world. Accessing that kind of communication made up of jokes, anecdotes and arguing is useful to the researcher, since people's representations are not entirely encapsulated in articulated responses to direct questions.

Naturally occurring groups are preferred, since they provide a social context within which meanings are built and representations generated. By using a pre-existing group, the researcher may be able to intercept and seize that kind of interaction which best approximates to original everyday communications. Moreover, participants who belong to pre-existing groups may bring up comments about shared experience and discrepancy between beliefs and behaviours, which generally promotes

the discussion (Bloor, Frankland, Thomas & Robson, 2001; Kitzinger, 1994).

The themes investigated were: 1) how volunteers got involved in the associations; 2) the reasons behind their choice; 3) their opinions about the UDAR. While the first was used as a warming-up question in line with the relevant literature (Bloor, Frankland, Thomas & Robson, 2001), the second and third questions focused on the participants´ opinions and fueled a discussion about animals and the UDAR. Halfway through the discussions, copies of the UDAR were presented as stimuli for the debate.

Three out of four focus groups were homogeneous. Two of them consisted of individuals who belonged to the LAV group, while one was composed of people from the ENPA[32] group. One focus group was heterogeneous, consisting of members of LAV, CSA[33] and ENPA. Thirteen participants belonged to LAV, 5 to ENPA and 5 to CSA.

LAV aims primarily at the abolition of animal experimentation and of any violence toward animals, including hunting and fishing. LAV members volunteered at the local cat and dog pounds for abandoned animals, which are run by ENPA and CSA. ENPA deals with the protection of animals and prevention of ill-treatment. It administers five dog pounds, three cat pounds and one wild animal shelter, thanks mainly to volunteer work. CSA directs six dog pounds, two cat pounds and one wild animal shelter, thanks to the volunteers as well.

The meetings were arranged about 2 weeks in advance by phone. The researcher was generally well-received, and LAV members in particular were mostly keen to describe their own reasoning and feelings. At the beginning of the discussion, the group moderator explained that the aim of the focus group was to talk to each other rather than to address the researcher. The sessions were relaxed and the participants were sitting in a circle. The focus group discussions lasted approximately 30-50 minutes and two of them were run at the LAV office, one at the ENPA office and one in a classroom where ENPA, CSA and LAV

[32] *In Italian: Ente Nazionale per la Protezione degli Animali (ENPA)*
[33] *In Italian: Centro Soccorso Animali (CSA)*

members were attending a training course arranged by the municipality of Modena. The interview with the President of LAV was added to the analysis because of the abundance of information it provided.

7.5 Results

Verbal interactions were audio-taped and transcribed verbatim. Interruption form outside (e.g. telephone) and competing distractions (e.g. noises) were reported as well. The transcription produced altogether 56 pages of text. The material was analyzed for themes and content (Bauer, 2000; Knodel, 1993; Morgan, 1997) by referring to the concept of themata, that is dichotomized pre-categorizations rooted in history and typical of each culture (Markova, 2000; Moscovici & Vignaux, 1994). Semantical content analysis classifies signs according to their meanings and enables the researcher to obtain a clear picture of the categories of meaning as they emerge from the interviewees' discourse and, moreover, to have an idea of the frequency of appearances of the major themes (Krippendorff, 2004; Stewart & Shamdasani, 1990). The interview material was analyzed by using the software package NUD*IST 4.0 (Buston, 1997; Richards & Richards, 1994).

The participants' discourse was divided into thematic units or text units (t.u.) and coded according to the meaning into categories or nodes, following a bottom-up strategy where the categories emerged from the material after repeated examination of the transcripts (Krippendorff, 2004). One text unit could belong to various categories or nodes, whereas others were not indexed at all. Each node/category consisted of several excerpts of interviews. Concept maps or trees were drawn based on the categories to clarify the relationships between the various themes.

7.5.1 The love/pain thema

The love/pain dichotomous theme emerged on the basis of a categorization process. On the one hand, activists reported their love for

animals when questioned about the reasons behind their commitment for the animal cause. Participants were struggling to improve the welfare of the animals in the dog and cat pounds. Sometimes, the process of representing animals led to their idealization. In this view, animals were always innocent and generous entities, as compared to mean humans. In the following excerpts, those views are exemplified. Each excerpt was identified by a code, for example 15FFG4. The first number identified the participant (for example 15). The following letter refered to the sex of the participants (that is F=female, M=male), while the last three characters referred to the group (that is FG3).

15FFG4: I have always been an animal lover, so I told myself, why not doing something for them?

17FFG4: We love animals very much, we wanted to do something, then we went there [the dog pound] and brought some bread…… and then once there...

1FFG1: I started with dogs and cats since I've always had some animals, my family, my grandfather was a cat-keeper, my mother was a cat-keeper, it was a kind of tradition.

17FFG4: (…) It is beautiful when you go there [the dog pound], it is cold in wintertime, you put down a blanket….. to me it is really important, I put down the blanket and I can see this poor dog lying on the blanket because it is warmer than a wet pallet.

2FFG: They [animals] never fake; they are always nice even when they have been ill-treated ( ) they are always so strong, I wonder how they can be so strong to start all over again?

1FFG1: They [animals] are so generous.

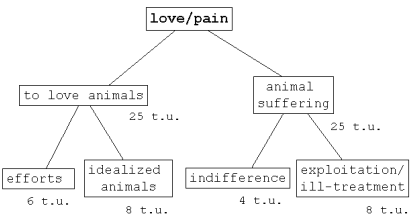
Another recurring theme in the focus group discussions was animal suffering provoked by humans. Activists reported abandoned and ill-treated dogs, the hunting of wild animals and the living condition of farm animals as examples of human exploitation and abuse of animals. Humans were depicted as either responsible for animal suffering or indifferent and uncaring.

2FFG1: Dog fighting is like that. It means beating, privations, being in the dark….. they are so exasperated that they attack the first thing they can see, they bite it… we would do the same

2FFG1: Eh, once I took a beekeeping course (…) and sometimes the beekeeper took out all their honey, leaving them [the bees] with nothing to eat. Those little bees were working from morning to night and then…

17FFG4: One fights, well, one works so hard, and although one is a bit down sometimes because in this field… the voluntary servicing… one keeps trying, trying, but one fights against people who don't care anyway and this is very sad
22FFG4: Then you see all the people who don't give a damn about animals

Figure 3. *Concept map of the love/pain themata*



7.5.2 Structure of the representational field

Even though exceptions existed, animals were reconstructed in a different way by LAV members as compared to CSA/ENPA members. On the one hand, CSA and ENPA members talked mostly about their love for animals as a fundamental reason for their commitment to the movement and defined this love in terms of protection of animals. They said that they had been pushed to protect animals because of an awareness of animal suffering. Their commitment to the animal cause has arisen mostly in response to animals in pain. Cats and dogs were frequently mentioned as the focus of their efforts. One participant referred to her faith in Saint Anthony the Abbot when explaining the reason behind her involvement in the movement. In this view, animals were depicted as objects of human love and protection.

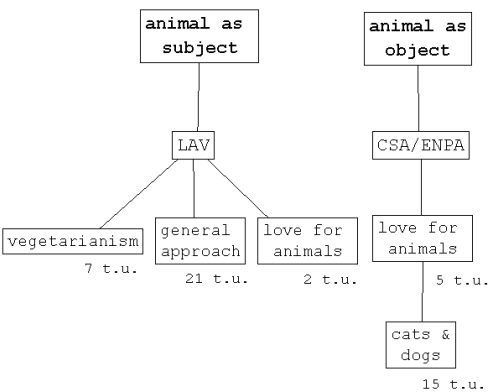
16MFG4: I have been a volunteer for the last few years because I love animals in general; it [the commitment] implies something… to protect them. (ENPA member)
17FFG4: We love animals very much, we wanted to do something, and then we went there [the dog pound] and brought some bread…. and then once there… (ENPA member)
1FFG1:... In the animal rights movements there are people… who help animals because they are the weakest beings on this planet…(LAV member)
2FFG1: as a matter of fact, I love Saint Anthony the Abbot a lot, since he is the Patron of animals and he is also my patron saint (LAV member)

While most participants aimed to protect animals, many LAV members reported that feelings of compassion for animal suffering have led them to rethink the role animals play in human society. Activists tried to solve some of those contradictions rooted in the modern relationship with animals in the light of the respect for animal lives. Besides working in the local dog and cat pounds for abandoned animals, the LAV members were mainly vegetarian and strongly disagreed with, for instance, animal experimentation and hunting. They imagined a new society where animal rights were respected just like other minorities' rights. They were engaged in the improvement of legislation for the protection of animals and fight for the abolition of any form of animal exploitation. In this view, animals were represented as subjects of rights, and activists approached the animal issue in a broader way than members of other groups.

1FFG1 ( ) I think that from here I started thinking more generally about respect for living beings such as farm animals, fur animals, laboratory animals. (LAV member)
7MFG2: [This association] has opened doors into myself that had existed before. Since I was a kid [I've had] this sensitiveness for animals, the environment, the suffering and so on. This activity has dug up something already there, and looking for other vegetarians, I approached the LAV. (LAV member)
1FFG1: Then we try to improve local legislation … (LAV member)
1FFG1: ( ) Then, by chance, I got into contact with those people ( ) who work for spreading themes like animal rights and who don't only take care of stray animals. (LAV member)
Interview1: ( ) Being an animal rights activist, being vegetarian, doesn't mean being better than others. It means making a choice

of solidarity and attention toward other species and at the same time not forgetting the attention toward our species…( ) rights of every living being, including humans. It is an idea that is very different from the zoophilist one… then first of all, we don't deal with "nice-animals", that is we don't deal with domestic animals…. and then the cow is not interesting or the mouse is not interesting or whatever. Since it is clear that in this light it was normal to collaborate with or to co-promote some projects such as the official LAV positions against the death penalty, in support of civil rights, we joined the gay-pride of 2000, and we have often collaborated with the association "Hands-off-cain34" (LAV member)

Figure 4. *Concept map of the representational field of LAV members and CSA/ENPA members*



7.5.2.1 Diet

Vegetarianism was mentioned spontaneously during the focus group discussions as opposed to traditional food. LAV members frequently

[34] *"Hands-off-cain" is a non-profit organisation in favour of the abolition of the death penalty: http://www.handsoffcain.org. In Italian: Nessuno-tocchi-caino, http://www.nessunotocchicaino.it.*

referred to the fact that they were first vegetarian and then approached the association looking for like-minded individuals.

> *6MFG2: About 7/8 years ago I decided to stop eating animals and to become vegetarian. Then after a while I discovered that there were others… and maybe to exchange opinions… I heard about… on TV and on the radio and then…. (LAV member)*
> *7MFG2: Well, actually I became vegetarian first of all thanks to the mad-cow issue. (LAV member)*

While the vegetarian diet was described as respectful of animal life, an omnivorous diet was described as natural and traditional. Pork meat has always been used a lot in this region of Italy, and being vegetarian was considered as something new and unusual.

> *17FFG4: We have to accept the fact that humans as a species are born omnivorous and if we let cats eat meat then also humans can eat it. (CSA member)*
> *18FFG4: Sometimes I feel a bit ashamed of being vegetarian, "How come? You are vegetarian?", and then on Christmas Eve… (CSA member)*
> *15FFG4: In Emilia35 it's terrible, there's the pork meat culture, and tortellini36…. (CSA member)*
> *2FFG1… Even tortellini…I am a prisoner… Like everybody I know from Emilia, I have learned how to make it when I was a child. I don't eat it, not even a piece. (LAV member)*

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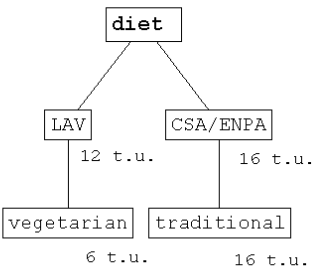
35 The research was carried out in the Emilia-Romagna region.
36 Traditional home-made pasta, filled with minced meat and cheese

Figure 5. *Concept map of the theme: diet*



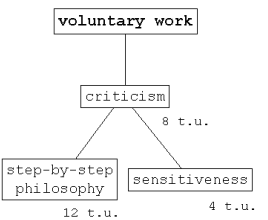
7.5.2.2 Voluntary working

The participants were working on a voluntary basis for the animal welfare and rights associations[37] and some of them were working at the local dog and cat pounds as well. Many of them reported being criticized for their commitment for the animal cause. They were often told that it was a waste of time and more worthwhile causes had to be pursued. By way of response, members pointed out the effectiveness of their efforts as symbolized by the step-by-step philosophy and their peculiar compassion for animals in pain.

> *22FFG4: Instead there are those who don't give a damn and say: how come? There are kids who are starving to death and you only think about dogs. You are mad!*
> *1FFG [Critics say that] there is no point in that, but it is not true ( ) if we really manage to change something by means of our behaviour. At the beginning there is just one, then one hundred people, then the whole system will change*
> *19FFG4: ( ) Maybe the sensitivity that leads us to empathize with animal suffering, makes us feel closer to our fellow human beings as well.*

[37] *Only one volunteer was paid.*

Figure 6. *Concept map of the theme: voluntary working*

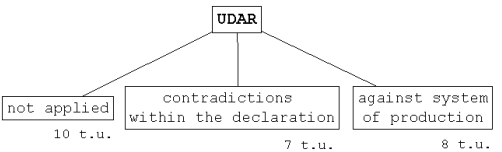


7.5.2.3 The Universal Declaration of Animal Rights (UDAR)

Activists participating in the research knew little about the UDAR. Many of them had never read it and after reading it through, they pointed out the many contradictions in the articles. They focused on the difficulties in reconciling the Declaration and the basic principles of our society. Participants seldom mentioned the animal rights issue spontaneously.

> *11MFG3: I have never read it…*
> *12MFG3: Easier said than done.*
> *18FFG4: Sure… starting from the abolition of, for instance, intensive farms, for instance this is sure… but if we talk about love for animals, probably the first choice is not … putting them into your stomach since this lacks consistency.*
> *1FFG1: I must say that accepting this document would mean to completely change our economic and productive system, for we believe that an animal is a subject and not an object. Then the whole system of production linked to dairy animals, meat animals, fur animals and so on... would collapse.*

Figure 7. *Concept map of the theme: UDAR*



7.6 Discussion

Starting from the SRT (Moscovici, 1981), this study investigated the activists' representations of animals and of animal rights, shedding light on the many ways activists construed shared meanings and theories about the world.

The representation of the human-animal relation, as the animal activists construe it, seemed to be rooted in the love/pain thema. Not surprisingly, love for animals was a central motive behind the activists´ involvement in the movement. Activists were concerned with the protection of stray animals and they shared a caring attitude toward animals. These results corresponded with those by Shapiro, (1994) who described the psychology of animal rights activists as someone being sympathetic and attentive to animals and their well-being. On the other hand, an idea of love for animals contrasted the acknowledgement of humans having a violent relationship with animals. Swan and McCarty

(2003) found that animal rights activists reconstructed the meaning of the use of animals by humans as pain and neglect and this might arouse sympathy in the listener. In this vein, animals were suffering victims of mean humans, who mistreated and neglected them.

The love/pain thema and compassion for the suffering of other beings, traced back to philosophers such as Spinoza (1677/1994) and Hume (1739-40/1978). Spinoza's notion of imitation of affection and Hume's notion of sympathy were very similar in that both denoted a process of acquiring an emotion, e.g. pain, through having an idea of a similar emotion in someone else. For Schopenhauer (1860/1995), compassion, the direct participation in the suffering of another, was the "basic phenomenon" of ethics from which humanitarianism and justice derive. He considered compassion or sympathy a relatively rare quality, since human beings are egoistic by nature. One could add that compassion for animals resulted from humans being affected by animal suffering, as if one had to endure this suffering personally. For many people, these compassionate feelings were the motives for moral actions regarding animals.

Moreover, activists described themselves as those rescuing animals and struggling to improve their living conditions, in opposition to those responsible of the animal suffering. Doise (1988) and Elejabarrieta (1994) suggested that the self-definition, that is the way individuals think about themselves, could be studied by using a qualitative approach as the representation that individuals construe of themselves on the basis of their social positioning or group membership. In this sense, the group of activists defined themselves by means of their compassionate feelings for animals and their struggling to protect animals, as opposed to members of the other group of individuals who ill-treat animals.

Activists were used to directly confront the external claims and the criticism they received. Responses to those claims contributed to build the activists' self-definition. The activists described themselves as sensitive beings struggling to improve animal welfare in opposition to other indifferent humans. These results corresponded with those by Einwohner (2002) who found that out-group members were not simply

an audience for animal welfare and rights protest but played a key role in the formation of the activists' individual and collective identity.

Even if all the participants shared common views on the protection of animals, the CSA/ENPA members expressed positions slightly different from those expressed by the LAV members. Social positioning is the process by which people take up positions about a network of significance and derives from the anchoring of shared knowledge in different groups (Clémence, 2001). The positions shared by the ENPA and CSA members looked close to a protectionist view of animals, tracing back to compassionate attitudes toward animals which originated in 18th century England. Thomas (1983) discussed the historical origin of sentimentalist concern for animal well-being, according to which it was wrong to cause unnecessary pain to animals. Because of their capacity to suffer, animals were brought into the sphere of moral concern by members of the emerging middle-class. This attitude was strictly linked with the growth of towns and the emergence of the industrial society where animals became progressively more marginal to the process of production. Several social forces such as urbanization, industrialization and democratization have caused a shift in the human view of animals, from instruments to be used for food, clothing and farm work to companions to be cherished (Franklin, 1999). Members did not question the relationship of humans with animals and focused on the protection of domestic animals, such as cats and dogs. These positions recall the "welfarists" views discussed by Jasper and Nelkin (1992) when analyzing the nature of the animal rights movement. Despite the lack of empirical support, Jasper and Nelkin (1992) claimed convincingly that the "welfarist" views were part of a larger humanitarian tradition of helping others and were focused on the protection of pets.

Digard (1990, 1993) pointed out that one of the contradictions in our relationship with animals was that in modern society domesticated animals are divided into two categories which are endowed with different statuses. On the one hand, Europeans live with millions of pets or companion animals, which are nourished, anthropomorphized and considered part of the family. On the other hand, a great number of the

so-called "useful" animals, such as cows, pigs, chickens etc., are eaten, ill-treated and exploited. Their compassionate feelings have driven the LAV members to call into question the role of animals in modern society and to place animals at the centre of their moral universe. In particular, their opposition to animal use has led them to a vegetarian or vegan (no animal products whatsoever) diet, contrasting with the traditional one centred on pork, historically rooted in the economic system of this rural region (Ballarini, 1998). They struggled to keep their beliefs in line with their way of life and described vegetarianism as a major sign of their respect for animals (Herzog, 1993). In this sense, the animal became a subject of right to live and to enjoy well-being. Their positions recalled the fundamentalist one described by Jasper and Nelkin (1992) who maintaind that assuming an animal rights perspective was in a way similar to religious conversion. These similarities included a fundamental shift in worldview and change in life style (i.e. diet). Sutherland and Nash (1994, 171) argued that this set of elements constituted an alternative "environmental cosmology" and took the role of a frame of reference for life.

The UDAR was not well known by the activists. Moreover, the activists pointed out the many contradictions within the declaration itself and between the principles of the declaration and the modern system of production. That being so, the UDAR was a marginal element of the representation of animal rights.

Even if the sample was too small to draw any sound conclusion, the study shed light on the Italian movement for animal welfare and rights and opened up a way to study in-depth the belief system behind the movement. During the last 30 years, the engagement of the Italian public in environmental and animal rights issues has been predominant over the anti-nuclear and pacifist one (Giugni, 2001). Therefore, the animal rights movement is growing, and the public debate over the use of animals for human benefit may increase. A satisfactory resolution of the debate can only emerge from attitudes of respect and mutual understanding. Psychological studies of animal rights activism could contribute to this process.

8. STUDY 1: FREE-ASSOCIATION TASK

This study aimed to explore the content and the structure of the representational field shared by the animal rights and welfare activists, on one hand, and by laypeople, on the other hand, about 1) the animals, 2) the animal biotechnology.

When analysing the social representations of animals, we were particularly interested in the analysis of the relations between the content of social representations and the function they serve. In other words, the idea underlying our study was that different representations of the animals could be related to such matters as the appropriate treatment of animals and the individuals' commitment into the animal cause.

Moreover, since most Europeans have shown uneasiness about biotechnology and to animal biotechnology in particular (Wagner et al., 2000), this study aimed to investigate the reasons behind such resistance among members of animal welfare and rights groups and among laypeople.

Words associations procedures are frequently used in social representation research (Goodwin et al., 2003; Le Bouedec, 1984; Ravenna, Speltini & Kirchler, 1998; Wagner, Valencia & Elejabarrieta, 1996; Zani, 1993). Giving a stimulus word and asking the respondent to freely associate what ideas come to his or her mind gives relatively unrestricted access to mental representations. Words and ideas elicited in this way are usually spontaneous productions subject to fewer constraints than those imposed in closed questionnaires (De Rosa, 1988; Di Giacomo, 1980, Vergès, 1987; Zani, 1993).

Free associations turn out to be more stable and useful measure for groups, as opposed to individuals, since the variability of individual associations can be balanced for. For instance, in a recent study the distribution of first word associations to stimulus words in two samples of individuals from the same group showed a correlation of r=.89 (Nelson & McEvoy, 2000).

According to Bauer and Gaskell classification of the data collection methods mostly used in the SRT (1999), the free-association task allows for the exploration of individual cognitions via the medium of words.

Table 4. *Bauer and Gaskell's classification of mode and medium of representations (1999)*

Data collection method	**Modes of representation**	**Mediums of representation**
Free-association	Individual cognition	Words

8.1 Representation of animals

This study investigated and compared the content and the structure of the representations of animal welfare and rights activists and of a comparative group of university students about the meaning of animal. By investigating the associations to the word 'animal', we intended to uncover the meaning of the concept of animal for activists in order to highlight the different aspects of the shared representation.

We hypothesised that:

1. The content and the structure of the representational field of animal activists was qualitatively different from the one shared by a comparative group of university students

2. Different representations of the animals could be associated with the way individuals consider the appropriate treatment of animals and consequently the individuals' commitment into the animal cause.

2.1 Intra-group variance in the definition of animal shared by animal welfare and rights activists could be found in accordance with their specific animal activist group membership.

8.1.1 Animal welfare and rights activists

8.1.1.1 Method and participants

Data collection was conducted in Modena district in January and February 2004. Participants filled in a written questionnaire (APPENDICES 16, 17) after being interviewed or after taking part in a focus group discussion on the same themes. Results of the interviews and focus groups are presented in the chapter 10.

For the free-association task, activists were instructed to write the first five words coming into their minds when prompted with the stimulus word (Doise, Clémence & Lorenzi-Cioldi, 1993).

Participants were recruited among the four animal rights and welfare organizations in the Modena district, namely:

1) L.A.V.[38] (Against-vivisection League) groups together about 15 active members, mainly under 40 years old, voluntary servicing at the local cat and dog shelters. The association deals mainly with a) actions for the abolition of any violence on animals such as vivisection, hunting, bullfight, fur and the use of animals in zoos and circus; b) with the spreading of vegetarianism; c) the protection of stray animals. The Ordinance n. P6143607 for the use of wild and exotic animals in circus was promoted by the joint efforts of the local LAV association and the Office for the Animal Rights in Municipality of Modena (APPENDIX 13);

2) E.N.P.A.[39] (National Foundation for the Protection of Animals) deals with the protection of animals and the prevention of ill-treatment

[38] *In Italian: Lega Anti Vivisezione (L.A.V.).*
http://www.comune.modena.it/associazioni/lavmo/
[39] *In Italian: Ente Nazionale per la Protezione degli Animali (E.N.P.A.)*
http://www.enpa.mo.it/

by means of 1) the work of the zoological guards which inspect reports from the citizens and, where applicable, draw up a statement concerning the living conditions of the animals; 2) the management of 5 dog pounds (in Colombaro di Formigine, Fanano, Serramazzoni, Spilamberto and Pavullo), of 3 cat pounds (in Modena, Fanano and Pavullo) and one wild animals shelter (in Villafreto) mainly thanks to the volunteers;

3) C.S.A.[40] (Center for Animal Aid) manages 1) 6 dog pounds, 2 of them directly (in Finale Emilia and in "via Nonantolana"), and 4 of them by means of agreements with local municipalities (in Mirandola, Savignano sul Panaro, Arceto and the municipal dog shelter in Modena), b) 2 cat pounds (in Finale Emilia and Marzaglia), 3) the wild animals shelter "Il pettirosso", mainly thanks to the volunteers.

4) G.Z.C.[41] (Animal-loving Group in Carpi) is a small association for the protection of animals in the Carpi area, managing one dog and one cat shelter in Carpi.

A few L.A.V. members belong to C.S.A. and/or E.N.P.A., as well. We decided to attribute each participant to the association they declared to be part of when they were interviewed.

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[40] *In Italian: Centro Soccorso Animali (C.S.A.)*
http://www.centrosoccorsoanimali.org/default.php
[41] *In italian: Gruppo Zoofilo Carpigiano (G.Z.C.)*

Figure 8. *Map of Modena district and locations of the dog, cat and wild animal shelters*

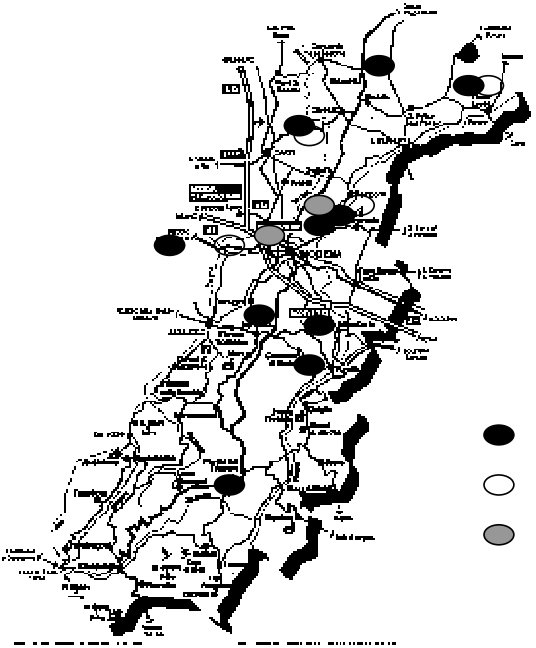

Table 5. *Activists' group membership.*

LAV	CSA	ENPA	GZC
26,8% (n=11)	26,8% (n=11)	29,3% (n=12)	17,1% (n=7)

In total, the sample included 41 animal welfare and rights activists of an average age of 33,3 and standard deviation of 9,7. It was composed mainly by women (60,9% vs 39,1% of males).

Table 6. *Description of the activist sample*

Variables	Group labels	Frequency	Percent
Gender	Men	16	39,0%
	Women	25	61,0%
Education	Secondary school (I)	5	12,2%
	Secondary school (II)	23	56,1%
	Master (5 years)	4	9,7%
	Missing	9	22,0%
Pet owner	Yes	37	90,2%
	No	4	9,8%
Religious believes	Religious person	9	22,0%
	No churchgoer	19	46,3%
	Non religious person	13	31,7%
Diet	Vegetarian/vegan	17	41,4%
	Non-Vegetarian	19	46,3%
	In the middle	4	9,8%
	Missing	1	2,5%

When crossing the group membership with the religious affiliation, significant differences emerge, χ^2 (6, N = 41) = 17,8, p = .007. LAV and ENPA members appeared to be the less religious ones.

Table 7. *Cross tabulation of group membership and religious affiliation for the activisits*

	Religious person	**No churchgoer**	**Non-religious person**	**Total**
ENPA	0	9	3	12
	0,0%	75,0%	25,0%	100,0%
CSA	6	3	2	11
	54,5%	27,3%	18,2%	100,0%
GZC	3	2	2	7
	42,9%	28,6%	28,6%	100,0%
LAV	0	5	6	11
	0,0%	45,5%	54,5%	100,0%
Total	9	19	13	41
	22,0%	46,3%	31,7%	100,0%

When crossing the group membership with the diet, meaningful differences are found, χ^2 (6, N=41) = 27,5, p = .000. While all LAV members referred being vegetarian, half ENPA members and one out of ten CSA members reported the same diet.

Table 8. *Cross tabulation of group membership and diet*

	Vegetarian/ vegan	**Non vegetarian**	**In the middle**	**Total**
ENPA	5	7	0	12
	41,7%	58,3%	0,0%	100,0%
CSA	1	7	3	11
	9,1%	63,6%	27,3%	100,0%
GZC	0	5	1	6
	0,0%	83,3%	16,7%	100,0%
LAV	11	0	0	11
	100,0%	0,0%	0,0%	100,0%
Total	17	19	4	40
	42,5%	47,5%	10,0%	100,0%

Note: Missing = 1

The participants were instructed as follows (APPENDICES 16,17):

> "Please, find in what follows some simple words concerning the humans-animals relationship. For each word, please write down the first 5 words that come to your mind. There are no right or wrong answers. We are interested in the investigation of individuals' impressions about every given word.
> The first word is: ANIMAL".

8.1.1.2 Results and interpretation

To recapitulate, the data was a set of word associations or dictionary about the stimulus word *animal,* obtained from the sample of respondents. Participants produced a dictionary composed by 180 different words with a mean of 4,3 words per participant. The words produced were first processed to make the corpus of words more uniform

and less ambiguous. Terms that expressed the same semantic content and differed only in grammatical form (gender, singular/plural) were grouped together. Words that were different but semantically equivalent were put together produced, for example "pain": "suffering" and "pain" (APPENDIX 3 for the list in Italian).

The dictionary was analysed using the Spad-T software (Doise, Clémence & Lorenzi-Cioldi, 1993; Lebart, 1995; Lebart & Salem, 1994), which was a French software for the analysis of textual data. It recognised each word as a graphic form, the data processing is based on.

Table 9. *Characteristics of the original and modified dictionaries*

Original dictionary	**Modified dictionary**
180 words (112 different words)	86 words
77% frequency = 1	20 roots

The most frequent words referred to the caring relationship with domestic animals (love=15; friendship=13; companion=7; affection=4; feelings=4), to attitude of respect for animals (respect=9), to their being alive (living being=8; life=4) and to their instinctual nature (freedom=7; nature=4: instinct=4).

Table 10. *Most frequent words*

Word	Frequency
Love	15
Friendship	13
Respect	9
Living-being	8
Companion	7
Freedom	7
Affection	4
Instinct	4
Nature	4
Feelings	4
Life	4
Dog	3
Sweetness	3
Pain	3
Loyalty	3
Commitment	3
Responsibility	3
Similar-to-me	3

The segment "friendship-companion" was mentioned four times, while "love-respect", "friendship-living-being-freedom" and "commitment-love" were mentioned twice each.

With respect to the gender, male activists mentioned more frequently the word "life" than female participants (V.TEST $\geq |2|$[42]).

Following Areni and Sensales (2000), the stability of the prompt-word, defined as the level of variability of words associated with the prompt-word, was computed using 2 stability indexes defined as 1) h, that is the number of hapax or words with frequency =1, and 2) the ratio T/O, that is the number of different words associated with the prompt-one divided for the total number of produced words. For the prompt-word "animal", h was equal to 87 and T/O is equal to .62 showing a moderate instability of the prompt-word "animal".

While previous analyses described the group of words independently of their interrelated structure, Correspondence Analysis (CA) allowed for

[42] *The "V-Test" provided by the SPAD statistical software package, makes it possible to judge the degree of significance of the variable. An absolute value of the V-Test that is higher than 2 corresponds to a significant probability: the variable is retained as significant one.*

the study of the shared knowledge by projecting the words on a factorial plan. This data analysis method reduced the field elements to dimensions of which they were reference points by treating frequency tables. Results are usually presented graphically.

We used the procedure CORBIT by SPAD-t (Version 5.0) to run binary CA. Since this version of SPAD-t does not allow for multiple CA with textual data[43], binary CA was carried out, assuming independence between socio-demographic variables. This way, socio-demographic variables were analysed together with the words (Doise, Clémence & Lorenzi-Cioldi, 1993; Lebart & Salem, 1994; Clausen, 1998).

First of all, we reduced the number of words from 86 to 31 by deleting the words whose frequency was lower than 2. Two factors were extracted explaining 41,0% of whole variance. To determine which words were significant, we considered those whose weight was ≥ 3,244. In the same vein, to determine which level of the illustrative variables was significant, we considered those whose weight was ≥ 5,8[45]. The word "nature" and the variable "41/50 years old" were significant on both factors.

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[43] *It is possible to run multiple correspondence analyses for textual data by recoding the database using the TEXNU procedure and then recode one by one every word as a binary variable. Finally, the CORMU procedure can be run. Unfortunately, recoding all the words by hand is time-consuming and the out-put of the CORMU does not provide any graphical illustration of the structure of the shared knowledge. For this reason, the only satisfying correspondence analysis allowed by this version of SPAD-T is the binary one.*

44 100/n° of words

45 100/levels of the variables

Table 11. *Words associated with "animal" by animal welfare and rights activists*

Factor	**Negative pole**		**Positive pole**	
	Words	**Absolute contribution**	**Words**	**Absolute contribution**
F1 Variance explained = 24,4%	Nature	6	Life	16
	Commitment	5,5	Soul	14,5
	Sensitivity	5,1	Exploitation	8,5
	Affection	3,8	Beauty	4
	Satisfaction	3,5	Helpless	3,9
			Similar-to-me	3,8
			Protection	3,4
	Non vegetarian	*13,6*	*LAV members*	*20,8*
	41/50	*10*	*Vegetarian/ vegan*	*18*
	GZC members	*8,7*	*31/40 years old*	*11,4*
	Religious people	*7,7*		
F2 Variance explained = 16,6%	Dog	11	Cheerfulness	23,5
	Loyalty	4,5	Dignity	15,8
	Freedom	3,7	Instinct	6,1
	Nature	6,1	Feelings	8,5
	Male	*15*	*Almost vegetarian*	*17,1*
	41/50	*6,1*	*Under 20*	*15,7*
	ENPA	*9,5*	*CSA*	*14,4*
			Female	*7,3*

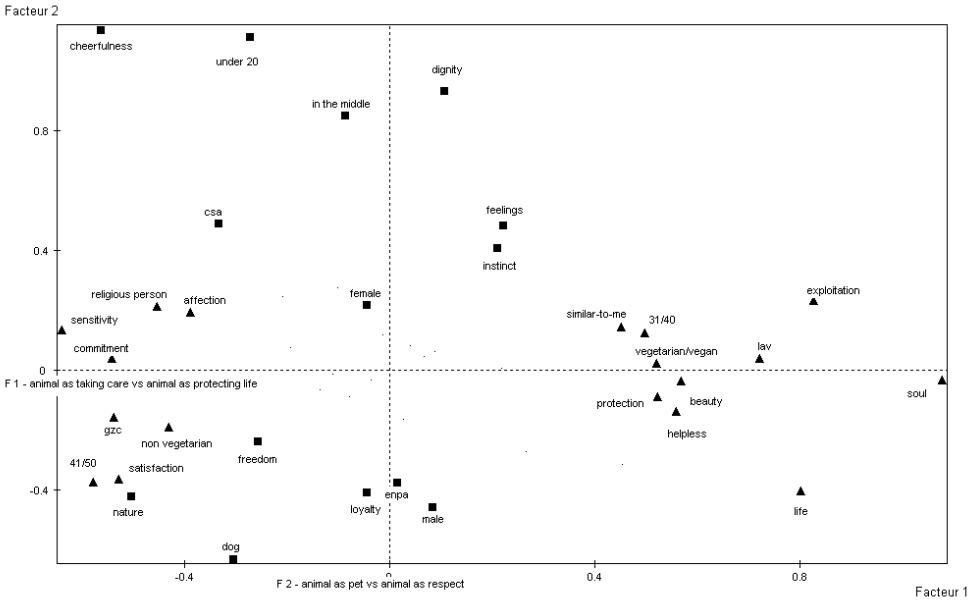
Note. Find in italics the significant illustrative variables.

The first factor "animal as taking care" vs "animal as protecting life" opposed an idea of animal focused on the emotional consequences of the relationship with domestic animals, with an idea of animal related to the

safeguard of animal life. On one hand, activists associated animal with an idea of taking care of domestic animals, and pointed to the affection, satisfaction and commitment animals involve. This idea was associated with GZC members, non vegetarian, religious people, between 41/50 years old. On the other hand, activists referred to the protection of animal life from exploitation and focus on their similarity to the human being. This view was associated with LAV member, vegetarian and between 31/40 years old.

The second factor "animal as pet" vs "animal as respect" contrasted the materialization of animal in domestic dog with an idea of respect for animal dignity and welfare. On one hand, activists associated animal with the very common domestic dog and referred to its loyalty and cheerfulness. This view was associated with men, ENPA members, between 41 and 50 years old. On the other hand, an idea of respect for the animal nature in terms of its instinct, emotions and welfare was associated with women, CSA member, under 20, almost vegetarian.

Figure 9. *Correspondence analysis on free associations to the word "animal"*



Note: Words marked with a triangle are significant on the first factor, while words marked with a square are significant on the second one.

Observing the factorial plan, three clouds of distinct words seemed to characterize the representational field. Cluster analysis of words could add to our findings in that it was used to define the word organization and deep structure of the representational field (Doise, Clémence & Lorenzi-Cioldi, 1993).

Cluster analysis, as obtained by using the RECIP/SEMIS and PARTI-DECLA procedures, confirmed the presence of three groups of words, explaining 57% of the total variance[46], as shown in Figure 10 (Mannetti & Tanucci, 1993).

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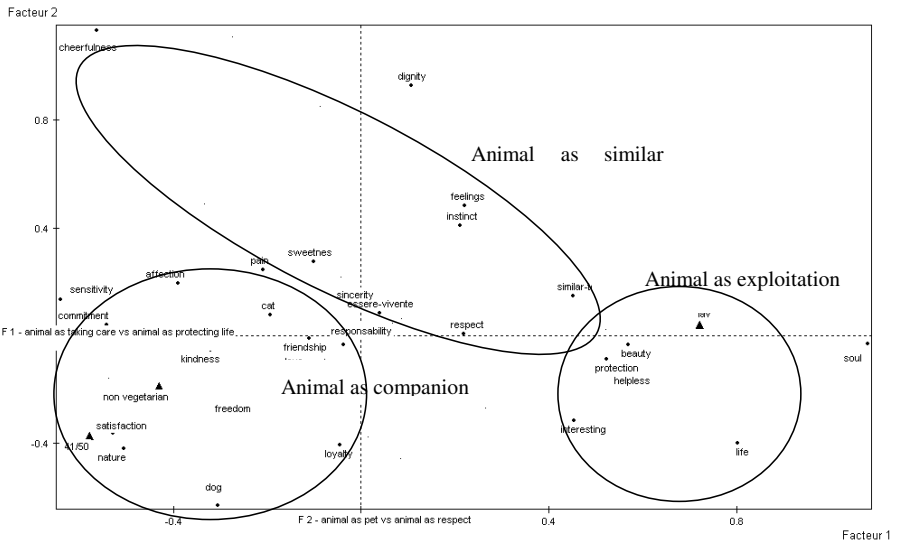
[46] *The percentage of the variability explained by the typology is measured in terms of the ratio of with-in cluster inertia to total inertia (where inertia is a measure of the variability of a cluster).*

Figure 10. *Cluster analysis of word associations to "animal" by animal welfare and rights activists*



The first cluster referred to the field of love and affection for companion dog and included words such as “affection”, “sensitivity” and “commitment” (words=14). Taking into consideration the position of this group on the factorial plan, one could say that the cluster was located at the intersection of an idea of taking care of animals (negative F1 axis) and the identification of animals with pet (negative F2 axis). For this reason, this cluster was defined as “animal as companion”. This cluster was associated with non vegetarian participants, between 41 and 50 years old.

The second cluster described an idea of respect for the dignity and the feelings of animals. It included words such as “feelings”, “similar-to-me” and “dignity” (words=10). The recognition of animal capacity to feel pain and the similarity between animal and human being led to an attitude of respect for animals (negative F2 axis). This cluster was defined as “animal as similar being”.

The third cluster “animal as exploitation” referred to the exploitation of animal lives and to the need for protection of animal beauty (positive F1 axis). It comprised words such as “exploitation”, “helpless” and “protection” (words=7). It was associated with LAV members (see APPENDIX 4 for a comprehensive list of the words of the clusters).

8.1.2 University students

8.1.2.1 Method and participants

Data collection was conducted in the University of Bologna between January and April 2004. The sample included 94 university students of an average age of 20,9 years (and standard deviation of 3,0). Participants were recruited among first-year students of the Faculty of Engineering (52,1%) and among first-year students of the Faculty of Education (47,9%). Men came mainly from the Faculty of Engineering while women from the Education one.

Table 12. *Sample description*

Variables	Group labels	Frequency	Percent
Gender	Men	40	42,6%
	Women	54	57,4%
Pet owner	Yes	55	58,5%
	No	39	41,5%
Religious believes	Religious person	70	73,7,0%
	Non religious person	22	23,2%
	Missing	2	3,1%
Diet	Vegetarian/vegan	6	6,4%
	Non-Vegetarian	86	91,5%
	In the middle	2	2,1%

Participants were asked to associate up to 5 words to the prompt-word "animal". The procedure and the questionnaire was the same used for the animal rights and welfare activists group (APPENDICES 16, 17).

8.1.2.2 Results and interpretation

In total, 460 associations were produced for the stimulus word "animal", and 214 of these were different. On average, each participant listed 4,8 words. The corpus of words was treated in the same way than the previous one. Only the words whose frequency was ≥ 3 were kept.

Table 13. *Characteristics of the original and modified dictionaries*

Original dictionary	Modified dictionary
460 words (214 different words)	37 words
68% frequency = 1	26 roots

The most frequent words referred to concrete example of domestic animals (dog=53; cat=42; mouse=10; horse=7), to the semantic universe

of the companion animal (company=15; affection=12; loyal=11; tenderness=6; cuddling=5) and to the domain of wild nature of animals (wild=6; ferocious=5; instinct=4) (see APPENDIX 5 for the list in Italian). The more frequent sequences of word were “dog-cat” (20), “cat-dog” (5) and “cat-mouse” (4). Men mentioned “cat-mouse” more often than women, while vegetarians mentioned “innocence” more often than non-vegetarian who mentioned “pig” more often (V.TEST $\geq \left| 2 \right|$).

As for the stability indexes, h was equal to 147 and T/O equal to .46 showing a moderate stability of the prompt-word “animal”.

Table 14. *Most frequent words*

Word	Frequency
Dog	52
cat	42
company	15
affection	12
loyal	11
hair	11
nature	10
mouse	10
friendship	7
horse	7
sweet	7
To play	7
Cage	6
mammal	6
Wild	6
tenderness	6
Cuddling	5
cub	5
Domestic	5
Living-being	5
Ferocious	5
Freedom	5

CA showed a two-factor plan explaining 64% of whole variance. To determine which words were significant, we considered those whose weight was ≥ 2,7. In the same vein, to determine which level of the illustrative variables was significant, we considered those whose weight was ≥ 9. The words "instinct" and "cage" and the variable "in the middle", referring to the individuals whose diet was in the middle between a vegetarian and a traditional one, were excluded of the analysis because their weight was too high. Five words were significant on both factors: "horse", "hamster", "respect", "monkey" and "tenderness". The variable "21/30 years old" was significant on both factors too.

Table 15. *Words associated with "animal" by animal welfare and rights activists*

Factor	**Negative pole**		**Positive pole**	
	Words	**Absolute contribution**	**Words**	**Absolute contribution**
F1 Variance explained = 36,1%	Horse	8,8	Domestic	7,1
	Hamster	8,7	Cud	6,9
	Dirty	7,4	Ferocious	4,6
	Life	5	Tail	4,3
	Respect	5	Food	4,1
	Mouse	4,5	Tenderness	3,6
	Dog	4,4	Little	2,9
	Monkey	4,3		
	Male	*20,2*	*Under 20*	*15,6*
	No religious people	*16,7*	*Female*	*10,7*
	21/30	*15,6*		
F2 Variance explained = 17,3%	Cuddling	15,4	Horse	6,6
	Respect	10,1	Freedom	6,5
	Nature	7	Tenderness	5,2
	Living-being	6,9	Monkey	3
	Big	5,5	Zoo	2,8
	Soft	4,2		
	Hamster	3,5		
	Curiosity	3,4		
	Pet owners	*22,9*	*Non pet owners*	*32,3*
	21/30	*15,3*		
	Vegetarian/vegan	*11*		

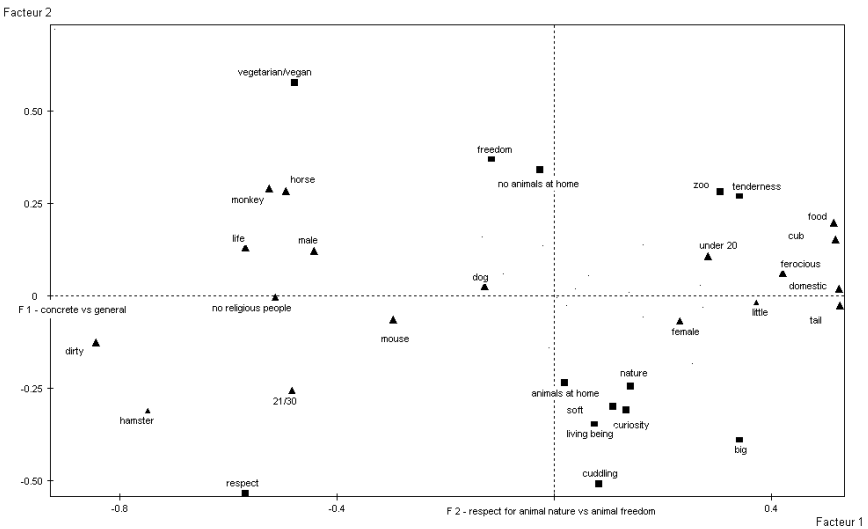
Note. Find in italics the significant illustrative variables.

The first factor "concrete vs general" centred on the expression of respect for concrete specimen of the animal kingdom on one hand, and on a caring attitude toward tender domestic pets on the other hand. Men, between 21 and 30, non religious were associated with the negative pole, which pointed to specific examples of animals such as dog, horse and monkey. On the other hand, the positive pole referred to feelings of sympathy and protection for the little, cute domestic pet. This position was anchored to the younger (under 20) women group.

The second axis was less clear than the first one. This factor "respect for animal nature vs animal freedom" opposed words referring to respect for animal life on one hand, to words referring to the issue of animal freedom such as "zoo" and "freedom" on the other hand. The positive axis seemed to relate to the debate over the human domestication of animals which is in contrast to their right to freedom. While the negative pole was associated with pet ownership, 21/30 and a vegetarian diet, the positive pole was associated with non pet-ownership.

Free-association task

Figure 11. *Correspondence analysis on free associations to the word "animal"*



Note: Words marked with a triangle are significant on the first factor, while words marked with a square are significant on the second one.

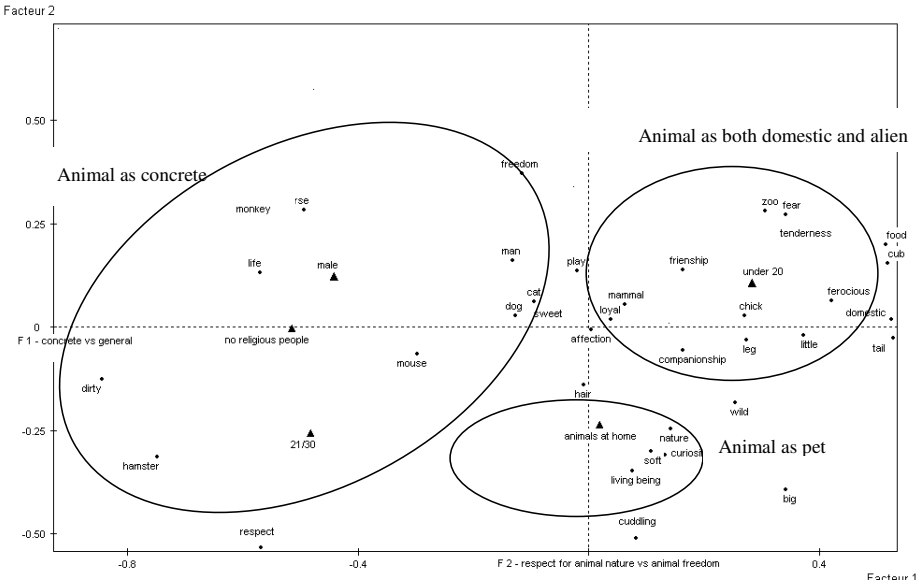
Cluster analysis showed the presence of 3 groups of words explaining the 38% of the total variance. The first cluster "animal as pet" referred to the semantic field of pet animals, especially dog, as exemplified by words such as "companionship", "hair", "soft", "loyalty", "friendship" (words=13). It called for respect of the nature of pet animals (negative F2 axis). It was associated with pet ownership.

The second cluster "animal as domestic and alien" referred to a double image of the animal. On one hand, the animal was perceived as domestic and familiar by means of words such as "little", "chick", "tail", while on the other hand it was viewed as an alien which cannot be known completely, as shown by words such as "ferocious" and "fear" (words=11). It comprised a general idea of animals together with the perception of animal freedom (positive F1 axis, positive F2 axis). This cluster was associated with younger students (under 20).

The third cluster "concrete animal" pointed to a concrete view of animals where specimens of animal kingdom are listed (negative F2 axis). It included words such as "dog", "cat" and "monkey" (words=13). This cluster was associated with male students, non religious, between 21/30.

Free-association task

Figure 12. *Cluster analysis of words associated with "animal" by students*



8.1.3 Comparison between the representational fields of animal activists and students

A first index of the similarity of the dictionaries produced by the two groups was calculated comparing the number of words mentioned by the activists and by the students (35) to the total number of words (85+169=254). The index was 0,13 showing that the two dictionaries are dissimilar.

Following the methodology by De Rosa (1988), the comparison between the structures of the representational fields of two different groups of people was done graphically by confronting the graphic spaces obtained by the CA method[47]. If the data organization in the multidimensional space resulting from CA expresses the cognitive structure of the elements of the representational field, then it is possible to compare two or more representational fields by looking at the organization of their elements in the graphic spaces.

The structures of the representations of the two groups showed both similarities and differences. Among the similarities, the semantic field of the domestic pet, in particular dog, was present in both representations as symbol of animal loyalty to the human fellow. Both animal activists and students, when thinking about animals, referred to domestic pets, mostly dog. In the same line, the opposition between the semantic field of domestic pets on one hand, and the respect for animal life on the other, was present in both figures.

On the other hand, the activists' representation seemed to be organised around their concrete caring behaviours towards animals. The

[47] *De Rosa (1988) compared the graphic spaces obtained by Kruskal's multidimensional scaling which is based on similarity matrix. On the other hand, SPAD-t, the software we have used, allows for correspondence analysis of textual data which is based on frequency tables. Both multidimensional scaling and correspondence analysis are multivariate methods of analysis. The inherent postulate is that the data organization in a multidimensional space resulting from these analyses would mach the cognitive structure of the elements of the representational field.*

taking care of animals appeared as the first factor in the activists' representational field, while this factor was absent in the student sample.

The CA with the comprehensive dictionary of words produced by the two groups showed a two-factors plan explaining 48,6% of the whole variance where the activist and student groups were opposed on the first axis. This indicated that the words associated by the two groups of individuals were significantly different. In the same line, the Multiple Correspondence Analysis (MCA) carried out using the procedure CORMU of the software SPAD-t (see footnote 10) showed the presence of two factors. The activists and the students were opposed on both.

Moreover, activists associated more frequently words such as "love", "friend", "respect", "living-being", "feelings" and "pain" than the students whose typical words were common specimens of the animal kingdom such as "dog" and "cat".

8.2 Representation of animal biotechnology

We intended to explore the content and the structure of the representational field shared by the animal rights and welfare activists, on one hand, and by laypeople, on the other hand about animal biotechnology.

In modern society, individuals do not have the necessary time or scientific literacy to form an opinion on the many innovations that the technology develops and feeds into our daily life. Wagner and al. (2002) suggested that the general public concretely and symbolically cope with the innovations technology produces by shaping and adopting images and representations enabling them to form an opinion about the issue.

The representational field shared by activists about animal biotechnology was compared with a group of university students' one in order to highlight similarities and differences. We hypothesize that:

1. The two semantic universes, while sharing some elements, will differ in the way the animal biotechnology was approached. The characteristics of these representations will vary as a function of

individuals' social positioning or group membership (Clémence, 2001). In other words, individuals' representations of animal biotechnology could be influenced by their insertion in specific network of meanings developed within social groups. Since the activists belong to quite enduring social groups for the protection of animals, we hypothesize that activists' representation will differ from the students' one.

2. For the activists, the opposition to animal biotechnology will be grounded on moral reasoning about the animal welfare and rights. According to their worldview, animal biotechnology, as a further use of animals for human benefit, should be avoided as long as possible and reduced to the minimum.

8.2.1 Animal welfare and rights activists

8.2.1.1 Methods and participants

The data collection method and the sample were the same as in the previous study (cf. previous paragraph). One participant did not provided any association for this prompt-word and for this reason it was eliminated from the analysis.

To recapitulate, the sample included 40 animal welfare and rights activists of an average age of 33,1 and standard deviation of 9,7. LAV members were 10 and CSA members were 11. Twelve out of 41 were ENPA members, while 7 participants were GZC members. The sample was composed mainly by women (60% vs 40% of males).

As emerged from cross-tabulation, ENPA and LAV members appeared to be the less religious (χ^2 (6, N=40) = 16,6, p = .011). Moreover, ENPA and LAV members reported being vegetarian more than members of the other groups (χ^2 (6, N=40) = 26,3, p = .000) with all LAV members following a vegetarian diet.

At the end of a focus group discussion, they were asked to fill in a form where free-association tasks were presented. Participants were invited to report the first five words coming into their minds when

prompted with the stimulus word "genetically modified animal" (see APPENDIX 16 & 17 for the instrument).

8.2.1.2 Results

Participants produced a dictionary composed by 145 words (112 different words) with a mean of 2,8 words per participant. For the prompt-word "genetically modified animals", h was equal to 97 and T/O is equal to .78 showing a moderate instability of the chosen prompt-word. The initial dictionary was reduced by deleting the words with frequency <2.

Table 16. *Characteristics of the original and modified dictionaries*

Original dictionary	Modified dictionary
145 words (114 different words)	27 words
85% frequency = 1	21 roots

The most frequent words referred to the against-nature discourse (against-nature=12; against=8; non-scientific=4; dangerous=3), to the field of disgust (disgust=4; aberration=4; loathing=4), to the ethical reasoning about GMA (immoral=4; non-respect-for-animals=2; exploitation=2), to the economic reasons (profit=4; money=3) and to the discourse of animal pain (violence=2; suffering=2; pain=2).

Table 17. *Most frequent words*

Words	Frequency
Against-nature	12
Useless	8
Against	7
Profit	4
Disgust	4
Non-scientific	4
Cruelty	4
Loathing	4
Aberration	4
Immoral	4
Money	3
Dangerous	3
Science	3
Progress	3
Arrogance	3

The segments "against-nature/useless" and "against/against-nature" were mentioned twice. With respect to the religious beliefs, religious people mentioned "science" more often than non-religious people. CSA members mentioned more often the word "against" while GZC mentioned "sheep". Non-pet owners mentioned more often "stupidity" than pet owners.

The CA of the 27 most frequent words extracted two factors, explaining 46,4% of the whole variance. To determine which words were significant, we considered those whose weight was ≥ 3,7. In the same vein, to determine which level of the illustrative variables was significant, we considered those whose weight was ≥ 5,2. The words "laboratory", "money", "sheep" and the GZC group were significant on both factors.

Table 18. *Words associated with "genetically modified animal" by animal welfare and rights activists*

Factor	**Negative pole**		**Positive pole**	
	Words	Absolute contribution	Words	Absolute contribution
F1 Variance explained = 28,1%	Science	20,5	Money	11,2
	Sheep	9	Non-scientific	11,1
	Laboratory	5,9	Profit	4,8
			Aberration	4,4
			Violence	3,8
	GZC	*17,9*	*31/40*	*12,1*
	Religious person	*15,5*	*LAV*	*10*
	21/30	*6,6*	*Vegetarian/ vegan*	*9,3*
			No churchgoer	*5,5*
F2 Variance explained = 18,3%	Illusion	8,3	Stupidity	25,3
	Exploitation	7,4	Money	23,8
	Arrogance	5,2	Laboratory	8,8
			Sheep	*4,7*
	41/50	*8,9*	*No animals at home*	*31*
	ENPA	*7,9*	*GZC*	*11,3*
	Animals at home	*5,6*	*Male*	*10*
	Female	*5,2*	*Under 20*	*5,2*

Note. Find in italics the significant illustrative variables.

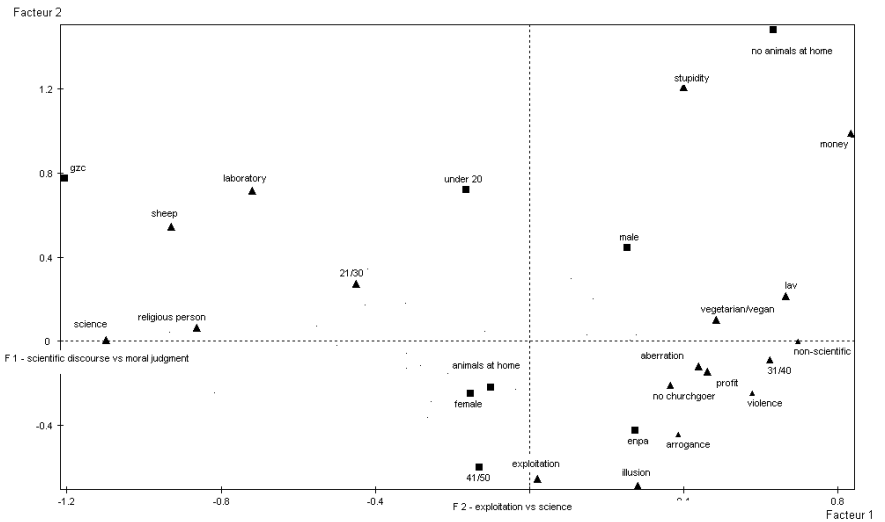
The first factor "scientific discourse vs moral judgment" clearly opposed the sphere of scientific discourse to that of a moral judgment towards animal biotechnology. On the negative axis, words such as "laboratory" and "sheep" referred to the semantic field of the scientific research involving animals. No evaluation was present. This view was associated with GZC members, religious people, between 21 and 30

years old. The positive axis pointed to a negative judgment of animal biotechnology, which was described as a non-scientific aberration driven by economic reasons. LAV members, vegetarian, between 31 and 40 years old, religious people but no-churchgoer were positioned on this axis.

The second factor "exploitation vs science" pointed to a negative view of animal biotechnology and of science in general. The negative axis described emotions related to the human exploitation of animals and called into question the effectiveness and the usefulness of this technology. This view was associated with older people, ENPA members, pet owners and female. On the other hand, the positive axis referred to a negative attitude towards science in general. Words such as "laboratory", "stupidity" and "money" contributed to this factor. In this view, science was depicted as blind and driven only by profit. GZC members, non pet owners, male and young were associated with this axis.

Free-association task

Figure 13. *Correspondence analysis on free associations to the word "GMA"*



Note: Words marked with a triangle are significant on the first factor, while words marked with a square are significant on the second one.

Cluster analysis was carried out in order to look for group of words forming similar representations. Words such as "money" and "stupidity" and the variable "no animals at home", weighted too much and were excluded from the analysis. Cluster analysis, as obtained by using the RECIP/SEMIS and PARTI-DECLA procedures, showed the presence of four groups of words, as shown in Figure 14.

The first cluster "animal biotechnology as non-scientific" referred to a negative attitude towards animal applications of biotechnology which was described as non-scientific and aberrant violence on animals. This cluster expressed a moral judgment on animal biotechnology as exemplified by words such as "aberration", "non-scientific" (positive F1 axis). It was associated with vegetarian/vegan participants, LAV members (words=4).

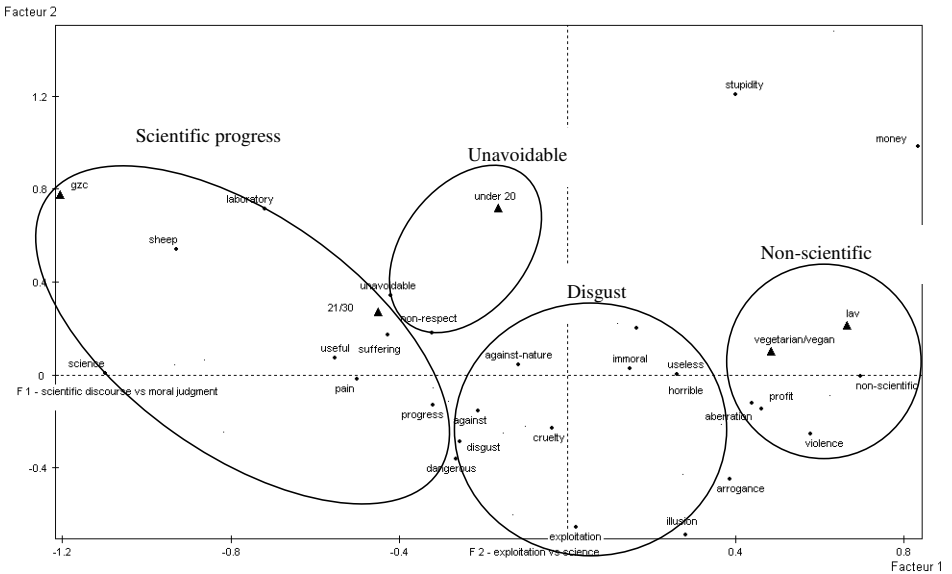
The second cluster "animal biotechnology as disgust" referred to the semantic field of disgust about animal biotechnology, which was described as "immoral", "disgust" and "against-nature" (words=11).

The third cluster "animal biotechnology as unavoidable" referred to an ambivalent attitude toward GMA. While concern for animal suffering was expressed, younger members (under 20) viewed animal biotechnology as inevitable advancement of scientific research (words=4).

The fourth cluster "animal biotechnology as scientific progress" referred to the semantic field of scientific research (negative F1 axis, positive F2 axis). Representation of animal biotechnology was linked to a general positive attitude towards science, expressed by words such as "progress", "useful" and "laboratory" (words=6). This cluster was associated with GZC members, between 21 and 30 years old (see APPENDIX 8 for the list of the words in the clusters).

Free-association task

Figure 14. *Cluster analysis of words associated with "GMA" by activists*



8.2.2 University students

8.2.2.1 Method and participants

The data collection method was the same as in the previous chapter. The sample included 91 students (three students were excluded from the analysis since they did not provide any associations to the prompt-word) of an average age of 21,3 and standard deviation of 3,8.

Table 19. *Description of the sample of student for the prompt-word "GMA"*

Variables	Group labels	Frequency	Percent
Gender	Men	39	42,9%
	Women	52	57,1%
Pet owner	Yes	53	58,2%
	No	38	41,8%
Age	Under 20	55	60,4%
	21/30	33	36,3%
	31/40	2	2,2%
	41/50	1	1,1%
Religious believes	Religious person	67	72,8%
	Non religious person	22	24,0 %
	Missing	2	3,2%
Diet	Vegetarian/vegan	7	7,7%
	Non-Vegetarian	83	91,2%
	In the middle	1	1,1%

Participants were required to respond with up to 5 associations for the prompt-word "genetically modified animal". The procedure and the questionnaire was the same used for the animal rights and welfare activists group (APPENDICES 16 & 17).

8.2.2.2 Results and interpretation

Participants associated 410 words in total (262 different words) with a mean of 4,4 words for person. For the prompt-word "genetically modified animals", h was equal to 210 and T/O is equal to .65 showing a moderate instability of this prompt-word.

Table 20. *Characteristics of the original and modified dictionaries*

Original dictionary	Modified dictionary
401 words (262 different words)	26 words
80,1% frequency = 1	23 roots

The most frequent word was "Dolly", suggesting how the cloning of Dolly has been strictly linked to the imaginary of the animal biotechnology. The more frequent words referred to the semantic universe of the scientific progress (experiments=15; science=14; laboratory=10; future=6; useful=7; research=6), of unnaturalness (unnatural=13; against-nature=11; strange=7), and to the discourse of cruelty and injustice towards animals (horrible=9; useless=8; injustice=8; cruelty=7; dangerous=7).

Table 21. *Most frequent words*

Word	Frequency
Dolly	17
Experiments	15
Science	14
Unnatural	13
Against-nature	11
Laboratory	10
Horrible	9
Useless	8
Injustice	8
Cruelty	7
Strange	7
Dangerous	7
Useful	7
Nastiness	7
Cloning	7

The following words were mentioned together twice: "strange-unnatural", "exploitation-useless", "science-innovations", "laboratory-experiments", "experiments-guinea pig", "Dolly-mice", "Dolly-sheep", "Dolly-DNA", "against-nature-suffering", "cloning-unnatural", "nastiness-injustice". Vegetarians' preferred word was "money".

CA was carried out with a total of 44 words whose frequency was ≥3. The variable age was excluded from the analysis since all the students belonged to the same age group. The variables "vegetarian" and "in the middle" as well as the words "to-cross-species" and "future" were excluded since too heavy.

Two factors were extracted, explaining 77,3% of the whole variance. To determine which words were significant, we considered those whose weight was ≥ 2,2. In the same vein, to determine which level of the illustrative variables was significant, we considered those whose weight was ≥ 14,2. The words "bad", "money", "useless", "research", "sad" and the "non-vegetarians" variable were significant on both factors.

Table 22. *Words associated with "genetically modified animal" by animal welfare and rights activists*

Factor	**Negative pole**		**Positive pole**	
	Words	Absolute contribution	Words	Absolute contribution
F1 Variance explained = 42,4%	Progress	18,1	Bad	2,6
	Dangerous	6,1	Guinea pig	5,4
	Sad	6	Dolly	2,8
	Money	4,6	Innovation	7,8
	Disgust	3,7	Useless	3,6
	Inhuman	3,2	Ill-treatment	5,4
	Research	2,4	Non-respect	10,2
	Male	*39,7*	*Female*	*22,3*
	Non-religious people	*27*		
F2 Variance explained = 34,8%	Injustice	13,1	Sad	10,7
	DNA	6,7	Mice	9,4
	Strange	6,2	Fear	4,9
	Unnatural	4	Money	4,6
	Useless	2,7	Horrible	3,7
	Research	2,7	Death	3,6
	Abuse	2,2	Sheep	3,6
	Bad	2,2	Useful	3,6
			Cage	3,2
			Violation	2,9
			Non religious people	*44,7*

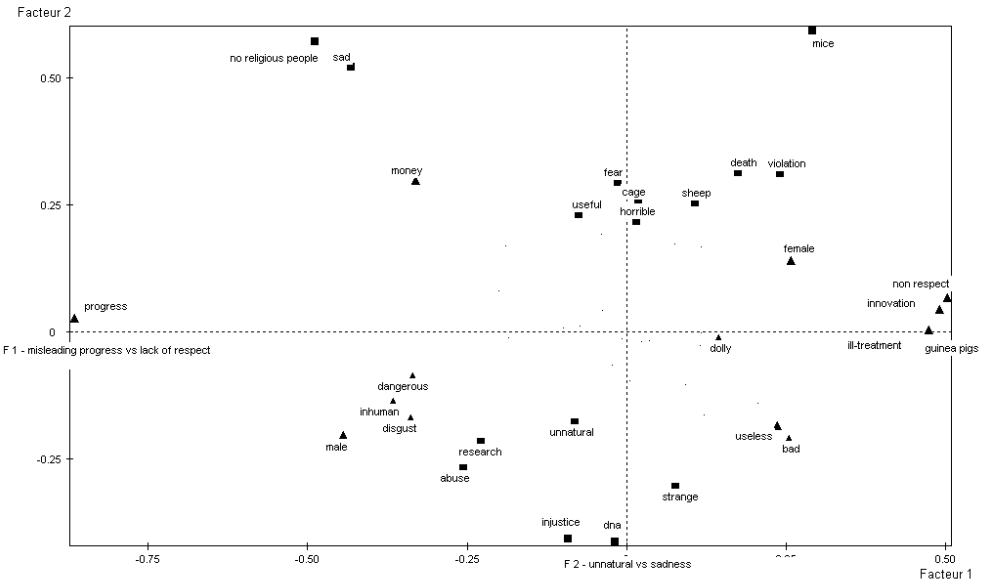
Note. Find the significant illustrative variables in italics.

On one hand, this factor "misleading progress vs lack of respect" referred to a pessimistic view of scientific research and the progress in general, which appeared to be driven by the pursuing of economic profit. The prevailing feeling was disgust and sadness and students seemed to be concerned about the risk related to animal biotechnology. This view was

associated with non religious, male students. On the other hand, this factor pointed to an openly negative judgment about animal biotechnology and the cloning of Dolly, which was viewed as a useless ill-treatment and lack of respect for animals. In this view, animal biotechnology was assimilated to the semantic field of the animal experimentation as words such as "guinea pig" could show. This view was associated with female students.

The second factor "unnaturalness vs sadness" contrasted the acknowledgement of the unnaturalness of the animal biotechnology with the semantic field of fear and death. On one hand, this factor referred to the strangeness and unnaturalness of biotechnological research involving animals, which was perceived as unjust and useless. On the other hand, feelings of sadness, fear and death were predominant. Animal biotechnology was described as useful and horrible at the same time. This view was associated with non religious people.

Figure 15. *Correspondence analysis on free associations to the word "GMA"*



Note: Words marked with a triangle are significant on the first factor, while words marked with a square are significant on the second one.

Cluster analysis showed the presence of three groups of words, as shown in Figure 16.

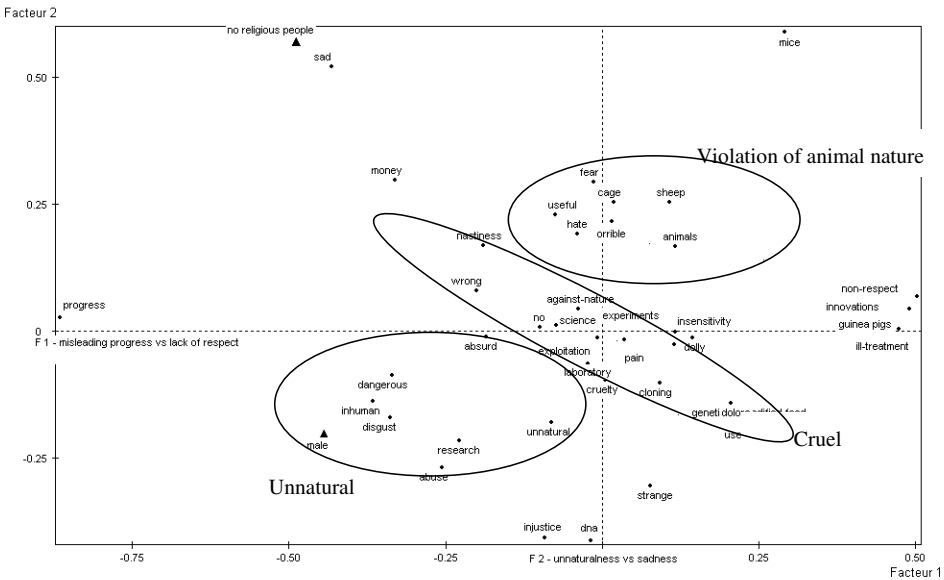
The first cluster "AB as cruel cloning" referred to the cruelty and uselessness involved in the animal cloning. Dolly, the clone, was taken as a symbol of pain and cruelty related with the laboratory experimentation on animals as exemplified by words such as "pain", "cloning", "experiments" (words=20). This cluster relied on an idea of lack of respect for animals (positive F1 axis).

The second cluster "AB as unnatural" pointed to animal biotechnology as unjust and unnatural. Advancements in scientific research were perceived as unfair since they were carried out at the expenses of animals. As for the axis, this cluster was built on the intersection of the perception of the misleading progress and an idea of unnaturalness (negative F1 axis, negative F2 axis). The prevalent feeling was disgust as illustrated by words such as "unnatural", "inhuman", "disgust" (words=10). This cluster was associated with male students. This cluster was positioned on the negative axis of the second factor.

The third cluster "AB as violation of animal nature" expressed concern for the violation of natural order. It pointed to animal biotechnology as useful but at the same time referred to the semantic field of wrongness and fear, as shown by words such as "cage", "horrible", "wrong", "fear" (words=14). Opposition to such technology was articulated in relation with the violation of animal nature due to human meanness. This view was associated with non religious people. This cluster was located on the positive axis of the second factor.

Free-association task

Figure 16. *Cluster analysis of words associated with "genetically modified animals" by students*



8.2.3 Comparison between the representational fields of the activists and the students about animal biotechnology

An index of the similarity was calculated by dividing the number of words mentioned by both groups (25) to the total number of words produced (79+149=228). The index was 0,10 showing that the two dictionaries are dissimilar.

Once again, both similarities and differences could be found between the representational fields of animal activists and students. First of all, when projecting the two categories, animal rights activists and students, on a factorial plan, CA showed that the activists were opposed to the students on the first dimension. This suggested that the dictionaries of associations produced by the two groups of people were different as well as the frequencies of occurrence of the words.

In particular, LAV members referred to animal biotechnology as non-scientific, clustering together words such as "non-scientific" and "profit". This cluster was absent in the students' representational field.

Moreover, the dictionary preferred by activists was significantly different from the students' one, in that activists mentioned more often words such as "money", "aberrant", "immoral", "illusion" and "no" when talking about animal biotechnology.

Feelings of disgust associated with the against-nature discourse were present in both representations. Animal biotechnology was associated by both groups to repulsion for the unnaturalness and dangerousness involved into the procedure.

In general, students´ representation of animal biotechnology seemed to be more critic than activists one, in that the former openly described the scientific progress as misleading and depicts such technology as violating animal nature. This result went against our hypotheses.

On the other hand, the graphical comparison of the two CA showed some similarities. Generally speaking, the first dimension of both representations consistently pointed on one hand to scientific discourse with words such as "progress" and "laboratory" and, on the other hand,

to the semantic field of moral judgment toward animal biotechnology with words such as “aberration” and “non-respect”.

8.3 Methodological concerns

The size of the sample, especially the animal welfare and rights one, posed the main methodological concern about the research. On the other hand, this study was meant to qualitatively investigate a definite population and in this sense, not much emphasis was put on the amount of subjects included into the sample and to the generalization of the results to the overall animal welfare and rights activist group.

Another threat to the validity of the research could come from the data analysis. While the relevant literature suggests the use multiple correspondence analysis to investigate the role supplementary variables, such as socio-demographic ones, could play in the representational field, the available version of SPAD-t allowed only for binary correspondence analysis by the CORBIT procedure (see footnote 10). Since binary CA assumed the independence between the socio-demographic variables, and projected them as active one, the overall picture of the representational field would be affected accordingly. On the other hand, since this version was the only one available, the researcher has drawn her conclusion on the basis of binary correspondence analysis, anyway.

8.4 Discussion

8.4.1 Social representations of animals

As previewed by our first hypothesis, the representational field of the activists was qualitatively different from the students´. When thinking about animals, animal welfare and rights activists thought about their concrete helping behaviour towards animals. Their daily interaction with wounded animals seemed to shape their representation of animals in that

they immediately pointed out the beauty of animal life and the need for its protection. On the other hand, students referred to concrete and general specimen of the animal kingdom such as dog and cat. In this sense, we could add to the debate on the explanatory nature of social representations by saying that, in this case, concrete helping behaviours have affected the relevant representation.

Activists focused on the similarities between humans and animals and this might shed light on the antecedents of animal concern. In other words, the activists emphasised the degree of perceived similarity with animals, and this has led them to get involved into the taking care of animals. Opotow (1990) suggested that broadening the scope of justice to include animals by increasing the perception of similarity between animals and humans could affect people's concern about animals. In the same line, Liu, Bonzon-Liu and Pierce-Guarino (1997) showed that the perception of similarity, operationalized as perception of common fate between humans and animals, was found as a reliable predictor of environmental concern. In line with these results, a British survey on animal experimentation has shown that people were more likely to support animal testing when the animal involved was morphologically dissimilar to humans, i.e. rodents, than when the animal was similar, i.e. monkeys (M.O.R.I, 1999).

Moreover, intra-group variance were found inside the animal welfare and rights movement in that vegetarian LAV members held a representation of the animals as exploited by humans which other activists did not share. This result was congruent with the relevant literature on the issue which underlined how animal welfare and rights activists call into question human relationship with animals and hoped for a more equal society where animals are not exploited and they are treated with respect (Singer, 1975; Regan, 1983). In this case, their representation of the animals as exploited by humans has led them to major changes in their life style in order to pursue a more respectful treatment of animals.

In particular, all LAV members chose a vegetarian or vegan diet which was in line with their fundamentalist view of the respect for

animal life (Jasper & Nelkin, 1992). While during the last 20 years, the vegetarianism has been spreading across Western countries, the ethical vegetarianism seems to be a progressive extension of moral concern to embrace animals as moral subjects. Moreover, these results were in line with those by Herzog (1993), pointing to the activists' struggling to keep their beliefs in line with their behaviours. In this view, vegetarianism was strictly linked to ethical arguments of Singer (1975), Midgley (1983) and Regan (1983).

On the other hand, non-vegetarian members of associations such as GZC held a protectionist view emphasizing sentimentalist concern for animal well-being and willingness to improve animal living conditions (Jasper & Nelkin, 1992). Those sentiments traced back to the protectionist view originated in 18th century described by Franklin (1999) and Thomas (1983) (for extensive discussion, see Chapter 3).

When thinking about animals, students referred firstly to concrete and general meanings, such as animal general names or adjectives, secondly to pet animals and finally to the double nature of animals as both domestic and alien at the same time (Benson, 1985). In contrast with the activists, the students did not share any protectionist views about animals.

More interestingly, animal activists and laypeople referred to domestic pets as loyal and sweet companions of their life. For students, this view was anchored into the pet ownership in that pet owners were probably keener to identify animals with their own pets. During the last century, the pet population has raised and the number of products and services available for pet has increased. Franklin (1999) argued that as a consequence of the '60s and '70s atomization of society and the decline of the social structures such as community, village and extended family, human ties with pet have strengthened up to the replacement for a number of human relationships. Thomas (1983) described pets as having three peculiar features not shared by other human-animal relationship: 1) pets are admitted into the human household whereas other animals are excluded; 2) pets are given individual personal name as a symbol of an individualised relationship with them; 3) pets are never eaten.

Moreover, twenty years of researches are consistent in showing benefits in the quality of life derived from companion animal contact, especially for men. Those benefits are evident on a psychological, physical, social and behavioural level in that pets can lower blood pressures, anxiety, depression and enhance social environment (Garrity & Stallones, 1998; Hecht, McMillin & Silverman, 2001; Servais, 1989; Wilson, 1998).

Students were aware of the distinction about domestic and wild animals and pointed out the hidden nature of animals. The encounter between humans and animals was perceived as an encounter between different forms of life and in this way, animals were perceived as aliens or foreigners (Benson, 1985).

8.4.2 Social representations of animal biotechnology

In Europe, the general attitude towards modern biotechnology has been characterised by widespread scepticism and the opposition seems to be particularly focused on GM foods and on animal biotechnology (EORG, 2002; Gaskell et al., 1997). The countries where the implementation and application of the biotechnology have been slow and on a modest scale, such as Spain, Portugal and Italy were those with the highest proportion of optimism (Nielsen, Jelsoe and Öhman, 2002). Moreover, Italy has been characterised by low level of public debate and scientific literacy on the issue which seems to be related to positive views on biotechnology (Gutteling et al., 2002).

Wagner and Kronberger (2002a) suggested that individuals have to concretely and symbolically cope with the novelty introduced by technology in order to be able to form and opinion and communicate with other individuals. Objectification is the process by which members of a group reach the consensus over a trope or discourse, making the novelty a part of the individuals´ symbolic world.

Contrary to our predictions, both the animal welfare and rights activists group and the student one showed equally unenthusiastic views on animal biotechnology. In particular, the students expressed more

critical views about animal biotechnology than animal welfare and rights activists. This result could be the consequence of a social desiderability effect according to which the activists tried to present themselves as less pessimistic than they were.

When thinking about the issue, both the activists and the students pointed on one hand to a neutral attitude towards science and, on the other hand, to a moral rejection of animal biotechnology. Once again, the representation of animal biotechnology and of science seemed to be interrelated. While the activists depicted animal biotechnology as non-scientific, the students described scientific progress as inhuman and pointed out scientists' lack of respect for animal life. This unenthusiastic view of science was particularly surprising since coming from young university students, half of which belonged to a scientific Faculty such as Engineering.

As predicted, activists expressed a moral concern about the use of animals in scientific research and were particularly alarmed about the animal suffering. In this view, animal biotechnology was described as cruel, immoral and aberrant. These findings were coherent with the philosophical positions shared by Singer (1975) and Regan (1983) on the avoidance of animal suffering for human sake.

The "going-against-nature" discourse was present in both the animal activists and the students group, and kept with the results by Wagner and Kronenberger (2002a) and Wagner et al. (2002). Individuals seemed to have clearly in mind the natural/unnatural dichotomy when thinking about animal biotechnology. They referred to it as unnatural and wrong.

Animal biotechnology was rejected on the basis of a moral stance maintaining that this technology represented an inappropriate rupture of the natural order and an unnecessary and cruel exploitation of animal lives. Students seemed particularly concerned about the violation of animal integrity. The consequent prevailing feeling was disgust for melting with nature and in particular for interfering with the "natural" par excellence, which are the animals. Tampering with genetic make-up implied the mixing of animal species (Nerlick, Clarke & Dingwall, 1999).

Moreover, animal biotechnology was rejected on the basis of the evaluation of risk involved in the procedures and the unforeseen and unpredictable effects of genetic engineering (Wagner et al., 2002). Thist was related to the perception of crossing the borders between the species. Melting with nature was not only immoral but also dangerous since the consequences of this manipulation can not be predicted. In other words, when the sacredness of the natural order is put into danger by disrespectful scientists, then the nature try to somehow "fight back" and the consequences are adverse for human beings.

The rigid dichotomy between nature and culture, which is ubiquitous in Western thought, could be of support to the idea that genetic engineering of animals was intrinsically wrong. In other words, if the realm of nature was given and distinct from the realm of human artifice, it represented a sin to introduce artifice into nature (Rollin, 1995).

The cloning of Dolly the sheep has deeply affected the public`s imagination. The students´ most frequent word was "Dolly" and this might reflect the broad emphasis the Italian press gave to the news in 1997. Given its high accessibility, Dolly the sheep could be referred as the objectification of the representation of animal biotechnology, and the mental image to which students refer to when thinking about animal biotechnology.

Quite interestingly, students associated the word "genetically modified animals" with the "Dolly", which is the first mammal successfully cloned from an adult cell taken from a ewe's mammary gland. Strictly speaking, this process has nothing to do with genetically engineered animals, which had their genetic heritage modified. Social representations appear once again as "good-to-think-with", while the consideration of the truth of the representation was left beyond.

8.4.2.1 Representation of science

In both samples, the general attitude toward science was quite pessimistic. Science appeared to be driven by profit to the crossing of natural borders between species. In this view, science was seen as

socially irresponsible and completely disconnected to the general concern about ethics and moral responsibility. Some animal welfare and rights activists went a bit further and described animal biotechnology as useless, non-scientific and misleading. This view was anchored in the LAV group, holding the more extreme positions on the issue.

The same discourse on science was found in a previous research on animal experimentation where the relationship between animals and science was explored and where animal experimentation was similarly described as misleading and untrustworthy (see Chapter 7). For instance, the students associated animal biotechnology with "guinea pig" which belonged to the semantic universe of animal experimentation and not of animal biotechnology. In this sense, activists' representation on animal biotechnology seemed to be linked to the representation of animal experimentation as if the same discourse was used to explain the two phenomena. In order to cope with many novelties introduced by animal biotechnology, individuals tried to anchor their discourse within the pre-existing network of meaning referring to experimentation involving animals.

9. STUDY 2: INTERVIEW AND FOCUS GROUP MATERIAL

Many authors have advised using different methods of investigation in order to fully understand the nature of a social representation. The limitations of each method could be compensated with the advantages of another one (Bauer & Gaskell, 1999; Flick, 1992; Sotirakopoulou & Breakwell, 1992). According to Bauer and Gaskell (1999), representations are embodied in 4 "modes" (habitual behaviour, individual cognition, informal communication and formal communication) and 4 "mediums[48]" (habitual behaviour may take the medium of bodily movements, while individual cognition and formal and informal communications may take the mediums of words, visual images or non-linguistic sounds). The triangulation of different data sources across modes and mediums allows the researcher to explore the crossroad of different perspectives and to map contradictions and consistencies.

Following these recommendations, we employed two of the most frequently used methods for investigating SR, namely individual interview (Herzlich, 1973; Jodelet, 1989) and focus group (Kitzinger, 1994; Krueger, 2000; Merton, 1987; Morgan, 1997).

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[48] *The authors use the plural "medium" to distinguish the type of representation from the common meaning of "media" as newspaper or TV.*

Table 23. *Modes and mediums of representations following Bauer and Gaskell (1999)*

Data collection method	**Modes of representation**	**Mediums of representation**
Interview	Individual cognition	Words
Focus group	Informal communication	Words

On one hand, the use of semi-structured interview contributes to the understanding of the life worlds of respondents and their social groupings (Gaskell, 2000). Moreover, this technique allows for the analysis of "naïve theories" or individual cognitions of participants as expressed via the medium of words. These verbalizations are the means through which the researcher could collect feelings, understandings and explanations of people as they phrase them. Gaskell (1994) prefers the use of interviews as compared to surveys, to explore deep level of consensus as well as the explanatory structure which underlies verbal consensus.

On the other hand, focus group discussions are recommended when the aim is to understand the formation of group meanings, as well as when little is known about the phenomenon being studied (Bloor, Frankland, Thomas & Robson, 2001). Simulating everyday interactions, the focus group technique provides in-dept insights into the participants´ shared beliefs about the world as expressed and generated by means of informal communications among the individuals. In this sense, the focus group technique matches the social origin of representations.

This study qualitatively explores the content of the animal rights and welfare activists´ world views about 2 main themes: 1) the animals and 2) genetically modified animals (GMA). In addition, the many ways activists get involved in the animal welfare and rights movement and/or in the voluntary working and the reasons behind this choice are explored as well.

9.1 Interview material

9.1.1 Method

Semi-structured interviews with a single respondent were conducted on the basis of a loose structure consisting of open-ended questions that defined the area to be explored (APPENDIX 11). The interviews started with some introductory comments about the research and the interviewer thanked the interviewees for accepting to talk. The interviewer/researcher tried to be sensitive to the language and concepts used by the interviewees and tried to keep the agenda flexible. The interviewer could diverge from the interview guide in order to pursue an idea in more detail and she could introduce further questions in order to probe the interviewee's meanings. The interviewer showed interest in what the respondent says and encouragement in the form of eye-contact and nods (Gaskell, 2000; Seidman, 1998).

The interviews lasted approximately between 10 and 20 minutes each, and they were done in volunteers´ working place, namely 2 CSA dog pounds (in Modena and Mirandola) and the GZC one (in Carpi). On the whole, the interviewer was well received at the different associations and the respondents willingly talked about their perceptions and views.

The interview themes were refined on the pilot study (Pivetti, forthcoming). Respondents were asked mainly four questions: 1) how they got involved in the movement and/or in the voluntary working?; 2) the reasons behind this choice; 3) how do they define and represent an animal?; 4) their perceptions about genetically modified animals (APPENDIX 11).

9.1.2 Participants

Sixteen interviews and 5 focus groups were conducted in Modena district in January and February 2004. Participants were recruited among the 4 animal rights and welfare organizations in the Modena district, namely 1)

LAV, 2) ENPA, 3) CSA, 4) GZC (see Chap. 8 for the description of the four associations).

Table 24. *Interviewees´ membership in animal rights and welfare associations.*

LAV	CSA	ENPA	GZC
0	9 interviews	0	7 interviews

In total, 16 members of animal rights and welfare associations were interviewed. Given the difficulty to recruit members of natural groups such as those under study, the number of respondents was set following the criterion that a focus group discussion would be arranged whenever possible. When not possible, members were asked for individual semi-structured interviews. Volunteers were very busy and sometimes it was difficult to recruit respondents. For this reason, individual interview method was preferred to the focus group interview. Due to the small size of the associations in the Modena district, the number of participants was not high. Despite that, the number of interviews meets the recommendations of Gaskell (2000, p.43). Approximately half of the interviews have been arranged about one week in advance by telephone when information regarding the study was provided as well. Moreover, it was difficult to set up in advance all the interviews and some of the interviews were carried out on Saturday mornings, during volunteers' duties. No prior arrangement has been taken.

Table 25. *Description of the sample*

Variables	Group labels	Frequency	Percent
Gender	Men	6	37,5%
	Women	10	62,5%
Education	Secondary school (I)	3	18,7%
	Secondary school (II)	9	56,2%
	Master (5 years)	1	6,2%
	Missing	3	18,7%
Pet owner	Yes	14	87,6%
	No	1	6,2%
	Missing	1	6,2%
Profession	Student	4	25%
	Employee	3	18,7%
	Missing	9	56,3%
Religious believes	Religious person	7	43,8%
	No churchgoer	4	25%
	Non religious person	4	25%
	Missing	1	6,2
Diet	Non-Vegetarian	11	68,7%
	In the middle	3	18,7%
	Missing	2	12,6

The sample consisted of 6 men and 10 women (N=16) from two different animal rights and welfare associations, namely CSA and GZC. The age ranged from 18 to 52 (mean=29,9 and standard deviation = 9,8). Almost all of them had one or more pets at home. Both CSA and GZC members shared a non-vegetarian diet.

9.1.3 Analysis of the material

The interviews were tape-recorded and transcribed verbatim. Interruption form outside (e.g. telephone) and competing distractions (e.g. barking) were reported as well. The transcription produced altogether 31 pages of text. The material was analyzed for themes and content by mean of semantic content analysis, which allowed for a clear picture of the categories of meaning as they emerged from interviewees´ discourse and for the frequency of appearances of the major themes (Bauer, 2000; Seidman, 1998).

The interview material was analysed using the software package NUD*IST 4.0 (Buston, 1997; Richards & Richards, 1994) which helped to automate and speed up the coding process and to build concept maps for the clarification of relationships among the categories of the content analysis (Barry, 1998; Tesch, 1990; Weitzman & Miles, 1995). NUD*IST (Non-numerical, Unstructured, Data: Indexing, Searching and Theorising) allowed the data to be indexed in more than one category and for categories to be continually adjusted to follow the progress of the analysis.

Transcripts were initially categorized by the topics into which the interviews were divided. Two main topics were identified: 1) the reasons behind activists´ involvement in the associations and in the voluntarily work, and their definitions of animals; 2) their perceptions about genetically modified animals (GMA). Each of the two topics was retrieved across participants and two Word files were created. After reading and re-reading the interview transcript several times, further categories were formed on the basis of the themes emerging from the interviews.

A text unit was defined as the smallest element of material conveying a meaningful thought, being a phrase or a combination of phrases varying in length from one to several lines of text. Participants´ discourse was divided into different text units as convenient and coded according to the meaning into nodes. Each category consisted of several text units or extracts of the interviews. One text unit could belong to

various categories or nodes whereas others were not indexed at all. No segment of text shorter than one text unit could be coded or retrieved.

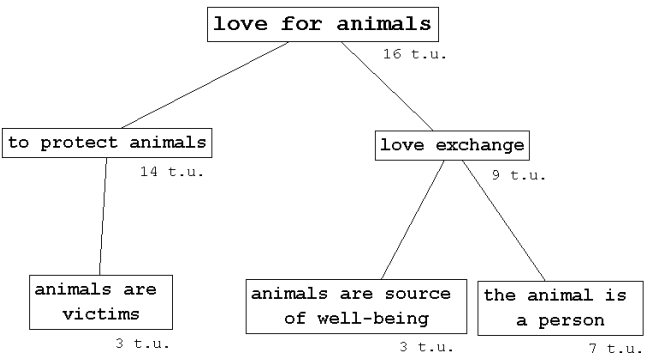
NUD*IST allowed the researcher to build concept maps or hierarchically structured trees on the basis of the nodes in order to clarify the relationship between the various categories. Initial nodes could be dissected more than once depending on the content of the categories. Main categories (nodes) were given parent status while sub-categories (nodes) were children. The result was a diagram with many branches, at which nodal points relevant data are stored. Once all the relevant material have been indexed, NUD*IST could retrieve every text unit coded into each node.

9.1.4 Results

9.1.4.1 Involvement into the movement and reasons behind their involvement

Figure 17 provides a concept map of the reasons behind the activists´ voluntary servicing and the three definitions of animals as they emerged from the interviews.

Figure 17. *Concept map of thematic analysis for interview material*



Note. t.u. = text units

When questioned about the reasons behind their commitment, not surprisingly participants referred their love for animals. This theme seemed to be a central feature in the activists´ worldview. Since childhood, they have always been animal lovers and now in their maturity they were able to concretely take care of them. In the following extract, this view is exemplified. Each excerpt is identified by a code, for example 8FINT2. The first number identifies the participant (e.g. 8). The next letter refers to the gender of the participants (i.e. F=female, M=male), while the last four figures refer to the interview number (i.e. INT2). See APPENDIX 12 for the complete list of transcription symbols.

Question: How did you approach the group/the voluntary work?

8FINT2 well I begin about *8FINT2 dunque io ho iniziato*

21 years ago, well I approached it since I loved animals, I was used to collect stray animals wounded animals and so on, I was 26 more than 20 years went by

11FINT2 well love for dogs since when I was a child and then I began to voluntary work when I was 18 and exactly because of love for animals I came and had a look at the dog pound before beginning to work here and I was touched and then I started immediately afterward

13FINT2 always, since I was a child I wanted to be a vet, I wanted to be within animals and so on and there were many animals I was trying to take home every animal fit the house

21 anni fa circa, dunque io mi sono avvicinata perché io amavo gli animali, raccattavo tutti gli animali per strada feriti eccetera eccetera avevo 26 anni sono passati ovviamente più di 20 anni

11FINT2 allora passione per i cani fin da quando ero piccola e poi ho iniziato a fare volontariato a 18 anni e proprio per passione per gli animali sono venuta dare un'occhiata al canile prima di fare volontariato e insomma sono rimasta abbastanza toccata e dopo ho iniziato subito

13FINT2 sempre da quando ero bambina volevo solo fare il veterinario volevo stare sempre in mezzo agli animali eccetera e c'erano fondamentalmente molti animali cercavo di infilare a casa tutto quello che ci stava

In particular, many participants were concerned about the protection of animals, especially dogs. The respondents felt that they could concretely improve the life of dogs in the dog pound by means of their work and this was perceived as very rewarding. Volunteers empathized with animal suffering and strived to improve life conditions into the dog pounds.

Question: How did you approach the group/the voluntary work?

7MINT1 well I am very happy to do this since I can see that these animals, this association strives to do everything to make these animals to do well

40FINT6 well then before coming at the dog pound, I came here many times and took some

7MINT1 no io sono molto contento di fare questo lavoro anche perché vedo che questo questi animali questa associazione cerca di fare il possibile per far star bene queste bestie poi,

40FINT6 dunque poi pero´ prima di venire al canile io un sacco di volte sono venuta qua

bread I took some food took some stuff and then I went away since I wasn´t able to get into it I had to get over the impact with dogs because if you love them you can feel their condition

davanti venivo portavo del pane portavo da mangiare portavo le cose e poi andavo via perché per riuscire a entrare a stare qui ho dovuto comunque superare l´impatto coi cani proprio perché se gli vuoi bene senti la loro condizione

Moreover, respondents describe the love exchange with animals as gratifying. Volunteers are not just working at the dog pound but they experience some kind of emotional exchange with dogs. This is reported as one of the key reasons underlying their voluntary work.

Question: What are the most important reasons behind your choice to get involved into the group/voluntary work?

9FINT2 eh I would say that they [animals] give so much and they want so little that they make me to love them since they suffer if I am not here, I couldn't be without them, since they give so much and they cheer me up so much, when I am down they cheer you up, the cuddling, the mash, the biscuit cheers you up

9FINT2 eh direi nel senso che danno talmente tanto e vogliono poco che mi inducono proprio a volergli bene perché loro soffrono se io non ci sono non ci riuscirei proprio a stare senza di loro perché mi danno talmente tanto mi rallegrano talmente tanto che quando sono giù loro ti tirano su le coccole il mangime il biscottino tirano su molto

12FINT2 to me, it is a living being that can give you a lot, even more than a human bein, sometimes, there is one-way love and sometimes your feelings are returned or anyway they give you love even if you don't deserve it

12FINT2 mah secondo me è un essere che ti può dare molto magari molto di più che che un essere umano per cui, si proprio delle volte c'è proprio dell'amore a senso unico mentre invece delle volte poi sono ricambiate o comunque danno amore anche se non te lo meriti

38MINT6 to add something, for sure they give much more than something else

38MINT6 ma ad aggiungere dire di no, sicuramente ci danno tanto di piu´ rispetto a qualche cos´altro

9.1.4.2 Definitions of animal: the victim, the source of wellbeing and the living being

In the protectionist view, animals and especially dogs were depicted as weak and vulnerable victims of human beings. Words such as ill-treatment and relinquishment were frequent in their discourse. Most probably this view rised from their everyday experience with abandoned dogs and wounded animals. Their commitment to the animal cause seemed to be strictly linked with this view. Animals were victims of rude society and they were striving to re-establish the balance by working at the dog pounds.

Question: What are the most important reasons behind your choice to get involved into the group/voluntary work?

39MINT6 yes but maybe the reports that you can see every year in the summertime on abandoned dogs, and maybe this has been enough, I have started in the summer 5 years ago in 99, I thought this summer I am going to voluntary work at the dog pound and I ended up being still here and I haven't quit yet

39MINT6 but to me the dogs in the dog pound are mainly victims of our incivility and if we were not here then and mainly in this country since we know that for instance in other country for instance in northern Europe things are different there is no [dog] abandonment, there is no ill-treatment we are trying to remedy the damages others do

39MINT6 si ma forse sono i servizi che si vedono tutti gli anni d´estate sui cani abbandonati e forse e´ stato sufficiente questo qua é cominciato nell´estate di 5 anni fa nel ´99 ho pensato questa estate faccio volontariato al canile poi é andata a finire che sono ancora qua e non ho ancora smesso

39MINT6 ma i cani del canile sono secondo me sono soprattutto delle vittime della nostra inciviltà ecco e se non ci fossimo noi buona notte e soprattutto di questo paese perché sappiamo che per esempio in altri paesi per esempio del Nord Europa le cose sono diverse non ci sono abbandoni non ci sono maltrattamenti insomma cerchiamo di porre un rimedio ai danni che fanno altri

When talking about love exchange, participants depicted animals as sources of wellbeing. The contact with animals was described as favouring the psychological health and the interaction with animals as

rewarding. In this sense, animals were a source of love and emotional well-being. Animals could not solve people's problems but a fulfilling relationship could be established with them.

Question: What are the most important reasons behind your choice to get involved into the group/voluntary work?

9FINT2 and so whoever has some problem should come here, since I am not telling that it can fix them, but it makes you to experience those problems in a certain way

9FINT2 e insomma anche chi ha dei problemi deve venire qua perché non dico te li risolve però te li fa vivere in una determinata maniera

8FINT2 just to begin with, the animal can help you psychologically for sure and I am telling you, to me it is more likely it [the animal] helping you than you helping it, since you cannot understand the psychological state, I can see the relationship with my animals at home everyday, I can see my son too, there is a game-relationship

8FINT2 intanto anche in tante situazioni l'animale sicuramente ti può aiutare psicologicamente e io dico che secondo me è più facile che sia lui ad aiutare te che te aiutare lui perché non è che riesci a capire gli stati psicologici io vedo quello rapporto con i miei animali a casa quotidianamente vedo anche mio figlio cioè è un rapporto di gioco di

Additionally, an animal was metaphorically referred as a human being. The word "person" came out quite often in the interviews. This metaphor showed how volunteers value animals and endow them with a high status. Again, this definition seemed to be rooted into an emotional exchange with animals. Animals were like people since they could experience feelings and emotions as people do.

Question: Could you define an animal?

7MINT1 an animal is a person to me, if you love it, it loves you back

7MINT1 eh un animale è una persona secondo me se gli dai affetto ti risponde affetto qua e là

19FINT4 an animal to me is a resource of sensations that they [animals] transmit as much as a person do

19FINT4 un animale per me è una risorsa di sensazioni che trasmettiamo tanto quanto una persona

Table 26. *Content analysis themes for the interview material: reasons behind the commitment to the animal cause and definitions of animal.*

Themes	Frequency	Extension		Evaluation
		CSA	GZC	
1. Love for animals	16 t.u.	6	2	Positive
1.1. To protect animals	14 t.u.	5	3	Positive
1.2. Love exchange	9 t.u.	3	3	Positive
1.1.1. Animals are victims	3 t.u.	1	1	Negative
1.2.1. Animals are sources of wellbeing	3 t.u.	2		Positive
1.2.2. Animals are human beings	7 t.u.	2	1	Positive

Note. t.u. = text unit

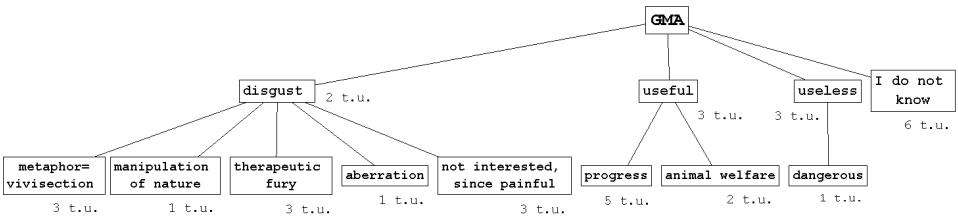
Table 26 summarised the frequency, the extension and the evaluation of the themes as emerging from the content analysis of the interview material. Frequency was defined as the frequency with which a theme or idea appeared and it was operationalised as number of text units dealing with the theme. Extension of a theme was defined as the number of CSA or GZC members who asserted this view. The evaluation of a theme as positive or negative depended on the context.

The love for animals and the protection of animals were the themes more often traced in the interview material. Love for animals was a central motivation for volunteers' commitment to the animal cause and a key theme in participants´ discourse. The definition of animals as human beings was prevalent. Animal abuse and the animal status of victim was judged negatively by respondents. Generally, the themes were fairly

spread between members of the two groups, showing common views on animals.

9.1.4.3 Genetically modified animals (GMA) and conception of science

Figure 18. *Concept map of thematic analysis for interview material: GMA*



Note. t.u. = text units

Figure 18 provides a concept map of activists´ representations of GMA as they emerged from the interviews. Some participants declared openly their ignorance about the issue. They did not read about GMA on newspapers nor they followed the development of the research activity. One of them also expressed doubts about reliability of media divulgation of science. People felt somehow lost among the many contradictory voices dealing with the issue.

Question: Media have reported about GMA, do you know the issue? What do you think about it?

7MINT1 I haven't heard about this, I don't know about it, I can´t, I am here all day so

7MINT1 io non ho sentito questa cosa non sono al corrente e quindi non posso sono limitato qua hai capito?

40FINT6 I don't know, there are so many voices that one can form an opinion up to a certain point then if you are not into the issue you can't

40FINT6 non so cioé ci sono tante voci cioé hai capito per cui fino a un certo punto ti puoi fare un´opinione dopodicché non te la puoi piu´ fare se non sei del settore hai capito?

Whereas disgust was the prevailing feeling among activists, themes such as usefulness and uselessness were of great concern to the interviewees. On one hand, activists acknowledged the role animal biotechnology plays in advancing scientific inquiry and possibly providing organs for transplantation. Animal welfare was taken into consideration when reasoning about GMA.

Question: Media have reported about GMA, do you know the issue? What do you think about it?

9FINT2 to me, this is horrible for them, it is horrible for me, it is horrible for dogs, yes, if one do it for a purpose in the sense that for the a research but it [the animal] is treated as an animal, not e: it makes me sick but then I tell to myself then I help a person, I treat

9FINT2 per me è un orrore cioè è un orrore per loro è un orrore per me cioè è un orrore per i cani si se uno lo fa per uno scopo nel senso che per una ricerca però poi dopo viene trattato come animale non dopo e: mi fa schifo però poi dico aiuto

it as a person, it makes me sick but I can understand that one needs the research I understand that they need animals for everything, since for instance the chimpanzees are almost like us

poi anche la persona però dopo io lo tratto come persona mi fa schifo però posso comprendere che tu hai bisogno della ricerca io capisco che hanno bisogno degli animali perché le per tutto quello che loro perché per esempio gli scimpanzé sono quasi uguali a noi

19FINT4 when there is a progressive sanitary purpose such as swine for transplantations, in front of such a blind country for the issue of transplantations, even if there is the assent-silence and other things there is a huge lack [of organs] then unfortunately I must say maybe it can be good

19FINT4 nel momento in cui c'è uno scopo sanitario evolutivo come i suini per i trapianti di fronte a un paese così miope nel tema trapianti nonostante ci sia il silenzio assenso e quant'altro c'è una carenza enorme allora a quel punto purtroppo c'è anche da dire allora forse quello ci può stare,

On the other hand, some activists sow animal biotechnology as useless and even dangerous for human health. When discussing their positions, interviewees mentioned vivisection as a metaphor for animal engineering. As vivisection turned out to be misleading and unreliable, in the future animal biotechnology will turn out to be scientifically mistaken and untrustworthy.

Question: Media have reported about GMA, do you know the issue? What do you think about it?

8FINT2 this is an absurdity that goes nowhere, I am sure that as we discovered during the years that then they don't want to understand it yet that vivisection, animal experimentation goes nowhere that the true experimentation is the one done on cells

8FINT2 well: I think they [genetic manipulations] are dangerous even exactly for the life

8FINT2 è una cosa assurda che non porta a niente sono convintissima che come abbiamo scoperto con gli anni che poi ancora non lo vogliono capire che la vivisezione la sperimentazione animale non porta a niente, che la vera sperimentazione è quella fatta su su cellule

8FINT2 Mah: ritengo anche che siano pericolose anche proprio per la proprio anche per la vita

A moral concern is expressed about biotechnology. One interviewee thinks that genetic engineer is inappropriate tampering with nature. This applies both to crops and animals. In addition, research activity is perceived as moved forwards by people´ wish to live at all costs. In this vein, therapeutic fury drives the scientific inquiry to the manipulation of nature.

Question: Media have reported about GMA, do you know the issue? What do you think about it?

8FINT2 speaking my mind, it's enough to make my hair stand on end when I listen to these things, I am strongly against any alteration of nature, to me certain things are absurd to modify either grain or living beings

8FINT2 detta proprio brutalmente mi vengono proprio i peli dritti quando sento certe cose ecco cioè io sono contrarissima a tutto quello che è la modificazione della natura cioè secondo me sono assurde certe cose sia quello che magari può succedere sul frumento sia sugli esseri viventi

13FINT2 then knowing (.) I'm against it in all sense, not mentioning the therapeutic fury on people and animals, including me first of all in the sense that I'm against all these new techniques such as vivisection I am strongly against

13FINT2 allora conoscere (.) sono contraria in senso assoluto a parte che non sto a parlare dell'accanimento terapeutico su persone e animali mettendoci me per prima nel senso che eeeee perciò tutte queste nuove modalità utilizzate la vivisezione sono contrarissima

In addition, one participant expressed disgust at animal biotechnology and openly avoided information on the issue.

Question: Media have reported about GMA, do you know the issue? What do you think about it?

11FINT2 unfortunatly I tried not to go deep into the issue at all since I don't know, so when I see the articles on the newspapers

11FINT2 purtroppo tutto l'argomento ho cercato di non approfondirlo perché non so assolutamente su questo aspetto quindi quando vedo gli articoli sui giornali così proprio

11FINT2 , in order not to feel

11FINT2 proprio per non

bad since I would disagree with that anyway, so I skipped them [the articles], this is something I don't approve, no

starci male perché comunque non sarei d'accordo perciò li ho proprio passati quindi è una cosa che non approvo no

Table 27. *Content analysis themes for the interview material: GMA*

Themes	**Frequency**	**Extension**		**Evaluation**
		CSA	**GZC**	
1. I don't know	6 t.u.	2	2	Neutral
2. Disgust	2 t.u.	2		Negative
2.1. Not interested since painful	3 t.u.	1		Positive
2.1. Metaphor = vivisection	3 t.u.	3		Negative
2.3. Manipulation of nature	1 t.u.	1		Negative
2.4. Therapeutic fury	3 t.u.	1		Negative
2.5. Aberration	1 t.u.	1		Negative
3. Useful	3 t.u.	1	1	Positive
3.1. Progress	5 t.u.	1	2	Positive
3.2. Animal welfare	2 t.u.	1		Positive
4. Useless	3 t.u.	2		Negative
4.1. Dangerous	1 t.u	1		Negative

Note. t.u. = text unit

Table 27 summarised the frequency, the extension and the evaluation of the themes as emerging from the content analysis of the interview material about GMA. While many interviewees reported they had little knowledge about GMA, feeling of disgust characterised the activists´ view, which was organized according to a useful-useless dichotomy. Scientific progress together with the respect of animal welfare was a central concern for those seeing animal engineering as useful. A positive evaluation on GMA prevailed among holders of this view. On the other hand, little faith in science and suspicion seemed to characterise those perceiving animal biotechnology as useless and dangerous. These interviewees judged animal biotechnology negatively. A general attitude

of disapproval grouped together those viewing animal engineering as a manipulation of nature and those talking about therapeutic fury and vivisection.

9.1.5 Reliability and validity of the data

Content validity requirements were met in that the study group was both heterogeneous and large enough so that little new material was forthcoming toward the end of data collection. The respondents were judged to be honest and the interview allowed them to discuss issues which were salient to them. On the other hand, CSA members seemed more talkative than GZC members and this could put into danger the validity of the conclusion.

To address issues of construct validity, the findings were compared to the literature and interpretations and conclusions were subjected to peer review. The coding of the material was discussed with an external judge and points of disagreement were cleared up (APPENDIX 14 for the codebook of the interview material).

Internal consistency was guaranteed by having all respondents interviewed with similar interview questions and by the same interviewer.

9.2 Focus group material

This study aims to qualitatively investigate the activists´ representational fields on animals with a focus on the belief system behind the animal rights movement. Such an approach allows us to investigate in dept the animal welfare and rights activists´ worldviews, as they are shaped and communicated in everyday life.

Moreover, activists´ representation of animal biotechnology was investigated as well. Biotechnology has been defined as the application of organisms, biological systems or biological processes to manufacturing and service industries; modern biotechnology uses

recombinant DNA technology to give GMOs desirable characteristics (GLOSSARY). Genetically modified animals has been defined as those animals whose genetic material has been altered by genetic engineering, that is the process by which a living organism's genetic make-up is changed by eliminating, modifying or adding copies of specific genes from other organism through modern molecular biology techniques. On the other hand, cloning has been defined as the production of genetically identical organisms, cells or biological molecules from one individual cell through asexual processes that do not involve the interchange or combination of genetic material (Commission of the European Communities, 2001). Application of genetic modification technology to animals can be mainly used 1) in medical research to create models of human diseases, 2) to produce milk which contains therapeutic proteins, 3) to provide organs and tissue for use in human transplant surgery (Straughan, 2000).

9.2.1 Method

Of importance here is the medium used to examine this. In short, a focus group is understood as "a carefully planned discussion designed to obtain perceptions on a defined area of interest in a permissive, non threatening environment" (Krueger, 2000). Focus group is a form of group interview that takes advantage of communication between participants to generate data. Group work ensures that priority is given to the respondents´ hierarchy of importance, their language and concepts, their frameworks for understanding the world. In this sense, argumentative interaction highlights the respondents´ attitudes, priorities, language and framework of understanding.

Guided by a skilled interviewer, participants share their ideas and perceptions, influencing each other by responding to ideas and comments in the discussion. Focus group participants are encouraged to talk to one another, asking questions, exchanging anecdotes and commenting on each other's experiences and point of views. Accessing to that kind of communication such as jokes, anecdotes and arguing is useful to the

researcher since people's representations are not entirely hold in pre-existing responses to direct questions, such as those in the questionnaires. The verbal contribution of the group members is stimulated by the dynamics of the group interaction and members are encouraged to openly express their views. The researcher could use the conflict between participants to clarify why people believe what they do (Kitzinger, 1994; Merton, 1987; Morgan, 1997).

Naturally occurring groups are preferred since they provide one of the social contexts within which meanings are build and representations generated. By using pre-existing group, the researcher may be able to intercept and seize that kind of interaction which best approximates to original everyday communications. Moreover, participants belonging to pre-existing groups may bring up comments about shared experience and discrepancy between beliefs and behaviour, generally promoting the discussion (Bloor, Frankland, Thomas & Robson, 2001; Kitzinger, 1994).

The moderator explained that the purpose of the focus groups was to encourage people to talk to each other rather than to address themselves to the researcher. The moderator's task was to facilitate the interaction between group members and to ensure everyone got a chance to speak. At the same time, the moderator tried to avoid to show too much approval, to give personal opinions so as not to influence participants towards any particular opinion (Krueger, 1988).

The themes investigated during the focus groups were: 1) how volunteers got involved in the associations; 2) the reasons behind their choice; 3) the definition of an animal and 4) genetically modified animals (GMA). While the first two questions were meant to be warming-up ones, relevant information were collected about the activists recruitment strategies and the motivations to engage in the animal rights movement. The definition of animal and participants´ positions on GMA was investigated as well (APPENDIX 11).

9.2.2 Participants

The study was run in the Modena district, Italy, in January and February 2004. Twenty-two animal welfare and rights activists participated to five homogeneous focus groups. Two focus groups were composed by LAV members, one by CSA members and two by ENPA members. Each focus group was composed by 3 to 6 participants as suggested by Bloor, Frankland, Thomas and Robson (2001).

Table 28. *Focus group participants membership to animal rights and welfare associations.*

	LAV	**CSA**	**ENPA**	**GZC**
	FG1 (6)	FG2 (3)	FG 3 (5)	
	FG4 (5)		FG 5 (3)	
Total number of participants	2 FG = 11	1 FG = 3	2 FG = 8	

Note: find in brakets the number of participants

Volunteers were very busy and sometimes it was difficult to recruit respondents. For this reason, groups of small size were arranged whenever possible. Due to the small size of the associations in the Modena district, five focus groups have saturated the representational field and no more new idea came up in the discussion (Krueger & Casey, 2000). During the recruitment of participants, we followed the criterion that a focus group discussion would be arranged whenever possible. No focus group discussion is available for GZC since it was not possible to organize any focus group. GZC members were face-to-face interviewed and the results are presented in paragraph 10.1.4. Phone calls introducing the research and recruiting participants were arranged about one week in advance.

The researcher was generally well-received and LAV members in particular were mostly keen to describe their own reasoning and feelings. At the beginning of the discussion, the group researcher explained that the aim of the focus group was to encourage to talk to each other in order

to collect as many information as possible about the topics under investigation. Sessions were relaxed and participants sit in a circle. Focus group discussions lasted approximately 25-50 minutes and were run at the LAV, ENPA and CSA offices.

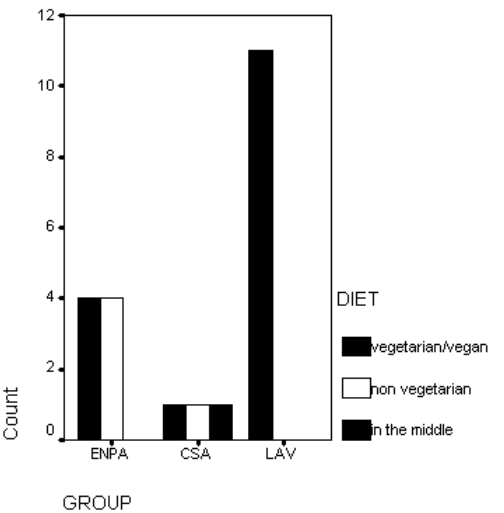
Table 29. *Description of the sample*

Variables	**Group labels**	**Frequency**	**Percent**
Gender	Men	7	31,8%
	Women	15	68,2%
Education	Secondary school (I)	2	9,1%
	Secondary school (II)	11	50%
	Master (5 years)	3	13,6%
	Missing	6	27,3%
Profession	Employee	9	40,9%
	Self-employee	4	18,2%
	Other	1	4,5%
	Missing	8	36,4%
Pet owner	Yes	19	86,4
	No	3	13,6
Religious beliefs	Religious person	2	9,1%
	No churchgoer	12	54,5%
	Non religious person	8	36,4%
Diet	Vegetarian or vegan	16	72,7%
	Non-Vegetarian	5	22,7%
	In the middle	1	4,5%

The sample consists of 22 activists, 7 male and 15 female, ranging between 19 and 55 years old (mean age=36,1). Eight participants belong to ENPA, 3 to CSA and 11 to LAV. Sixteen out of 22 are vegetarian or vegan (72,7%). Group membership was associated with diet as all LAV members said they were vegetarian, half ENPA members and one out of

three CSA members reported the same diet. No statistical analysis was carried out due to the small amount of subjects (N=22).

Figure 19. *Participants´ diet crossed with their group membership*



9.2.3 Analysis of the material

Verbal interactions were audio-taped and transcribed verbatim. Outside interruption (e.g. telephone) and competing distractions (e.g. barking) were reported as well. The transcription produced altogether 52 pages of text.

The same procedure was used to analyse the focus group material and the semi-structured interview material (cfr. paragraph 10.1.3). The material was analyzed for themes and content (Bauer, 2000; Knodel, 1993; Morgan, 1988). Semantical content analysis classifies signs according to their meanings and enables the researcher to obtain a clear picture of the categories of meaning as they emerge from interviewees

discourse and to have an idea of the frequency of appearances of the major themes (Krippendorff, 2004; Stewart & Shamdasani, 1990). The interview material was analyzed using the software package NUD*IST 4.0 (Buston, 1997; Richards & Richards, 1994).

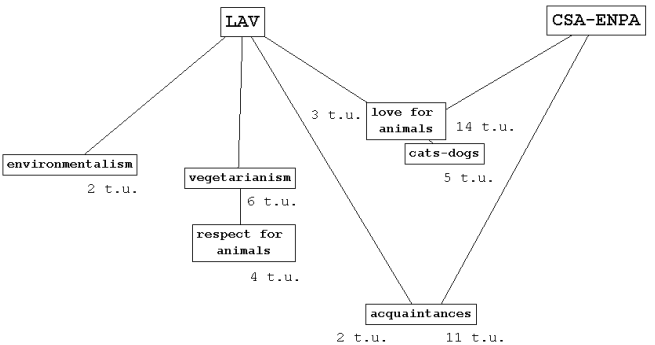
Transcripts were initially divided into 4 Word files, one per each main topic defined by the focus group guide, that is 1) how the activists get involved in the group or the voluntary work, 2) the reasons behind activists´ involvement, 3) their definitions of animals; 4) their perceptions about genetically modified animals (GMA). After retrieving the 4 topics from the discussion material, thematic or text units were coded into meaningful categories. The choice of the categories followed a bottom-up strategy, the categories jumping out of the material after repeated examination of the transcripts.

Recurring system of beliefs or explanations represented thematic units, being them a phrase or a set of statements (Krippendorff, 2004). Participants´ discourse, as divided into thematic units, was coded according to the meaning into nodes. Each node/category consisted of several excerpts of the interviews. One text unit could belong to various categories or nodes whereas others were not indexed at all.

9.2.4 Results

9.2.4.1 Involvement into the movement and reasons behind their involvement

Figure 20. *Concept map of thematic analysis for focus group material*



Note. t.u. = text units

Both LAV, CSA and ENPA members indicated that they started to approach the associations and the voluntary servicing as driven by their love for animals, in particular dogs and cats. This theme seemed to be a central one. Since their childhood, they have always been animal lovers and referred they had a real passion for animals. See APPENDIX 12 for the complete list of transcription symbols. Find in brackets at the end of the extracts the group membership of the speaker.

Questions: How did you approach the group/the voluntary work? What are the most important reasons behind your choice to get involved into the group/voluntary work?

32FFG4 I´m repeating what she said because my motivations are mainly the same one, I´ve always loved animals, I´ve grown up with animals (LAV)

32FFG4 Io ricalco quello che ha detto lei perché praticamente perché le motivazioni sono le stesse anch´io ho sempre amato gli animali sono cresciuta con gli animali (LAV)

41FFG5 I´ve always had a passion for animals and I´ve always told to myself, now I´m going to do something, I´m lazy, I told it but I have never done it, then (ENPA)

41FFG5 io ho sempre avuto la passione per gli animali e ho sempre detto adesso faccio qualcosa faccio qualcosa per pigrizia si dice ma non si fa poi (ENPA)

25FFG3 we do it also because of love for animals, then it has become a big deal, if it wasn´t because of love for all the animals then… I believe even just the cleaning job at the dog pound in Colombaro sometimes it helps, it helps a lot, if volunteers wouldn´t be there then …(CSA)

25FFG3 anche lo facciamo per amore nei confronti degli animali poi é diventato anche un grosso impegno peró se non ci fosse l´amore che abbiamo forse per tutti gli animali cioé credo… cioé anche solo il fatto di dire ve vado al canile a Colombaro a dare una pulita ogni tanto serve cioé aiuta perché guai se non ci fossero i volontari …(CSA)

20FFG2 m: for the dogs, to love dogs and take care of them (CSA)

20FFG2 m: per i cani cioè amare i cani e starci dietro (CSA)

Moreover, members of the three associations mentioned some acquaintances of theirs when questioned about how they concretely got in contact with the associations. Previous contact with someone in the movement was very important factor for the recruitment. This data emphasized the importance of pre-existing social networks for the recruitment of new members.

Questions: How did you approach the group/the voluntary work? What are the most important reasons behind your choice to get involved into the group/voluntary work?

5MFG1. thanks to a friend from Bologna, talking to her, then in Carpi there is a girl named C.D. I was in contact with, then I was going out with a girl… (LAV)

5MFG1 io attraverso un'amica di Bologna, cioè parlando, poi a Carpi c'è una ragazza che si chiama C.D. che ho contattato, poi stavo con una ragazza… (LAV)

24FFG3 my name is D. [I began to attend the dog pound] by chance. A friend of mine

24FFG3 io mi chiamo D. in modo assolutamente casuale, una mia amica mi ha detto ti

asked me if I would come to the dog pound, and I said sure (CSA)

25FFG3 my name is S. I'm his wife then (CSA)

piacerebbe venire al canile e io ho detto certo (CSA)

25FFG3 io mi chiamo S. sono sua moglie perciò (CSA)

On the other hand, LAV members differed from CSA and ENPA members with regard to the diet and the environmental concern. In line with their ideas, many LAV members were vegetarian and vegetarianism was mentioned spontaneously during the focus group discussions as a sign of their respect for animals. LAV members referred frequently to their first being vegetarian and then approaching the association looking for like-minded individuals.

Questions: How did you approach the group/the voluntary work? What are the most important reasons behind your choice to get involved into the group/voluntary work?

1MFG1. first I became vegetarian thanks to "mad cow" disease, 6 years ago, then I was looking for vegetarian people and then I thought that there may be some in the animal rights world, then I've approached an association whose name I'm not going to say, where vegetarianism was not interesting at all, neither the plurality of animals, that is not just some animals. Then I've discovered that LAV members aim to help animals, not only those belonging to some species but all of them, and that the members are vegetarian. I conceive vegetarianism as a fundamental issue; to me any non-vegetarian person doesn't love animals. (LAV)

4FFG1. also because it's simply a matter of choice. One could love the parrot or the dog

1MFG1. io sono diventato prima vegetariano grazie a mucca pazza, 6 anni fa, poi però cercavo persone vegetariane e allora ho pensato possono essercene nel mondo dell'animalismo e ho contattato una prima associazione che non ti faccio il nome, nella quale però ho trovato che il vegetarianismo a loro non interessava minimamente, la pluralità degli animali in altri modi, cioè non determinati animali, poi invece ho scoperto che i membri della LAV vogliono aiutare gli animali non solo di determinate specie ma tutte e che sono anche vegetariane e io considero il vegetarianismo un punto basilare, secondo me chiunque non è vegetariano non ama gli animali (LAV)

4FFG1. anche perché semplicemente è una questione di scelta, uno può essere giustamente

or the cat at home, but to me the vegetarian choice respects the bond with animals 100%. Even because it's not sure that those belonging to CSA don't love animals then, but it's a partial animalism, it isn't a total choice but it's a partial one (LAV)

amante del pappagallino piuttosto che del cane del gatto che hai a casa, però la scelta vegetariana secondo me rispetta al 100% il legame con gli animali, no? Anche perché poi non è detto che chi va al CSA poi non ama gli animali, però è un animalismo parziale, non è una scelta totalista ma è parziale (LAV)

4FFG1. you can give a lot. You can go 10 hours per day to the dog pound to feed the dogs and the cats, whatever. Then you go home and you eat two T-bone steaks. You have killed one third of a cow and then you understand that… I'm telling you that does this make sense? Then you realize that with your daily action you have spoiled the 3 hours of voluntary work (LAV)

4FFG1. uno magari dai anche tanto uno magari vai anche 10 ore al giorno al canile, va bene, a dar da mangiare a cani gatti quello che sono e poi vai a casa e ti mangia due fiorentine, hai ammazzato un terzo di vacca e allora capisci che …perché per questo che ti dicevo questo ha senso? e ti rendi conto che con la tua azione quotidiana vai a disfare le 3 ore di volontariato (LAV)

Also environmental concern was mentioned as a starting point on the road to the animal rights movement. LAV members are equally concerned about animals and about the environment.

Questions: How did you approach the group/the voluntary work? What are the most important reasons behind your choice to get involved into the group/voluntary work?

4FFG1. [I approached] LAV in particular since I've been into the world of ecology and naturism for 10 years, then I've decided to add the animalist choice to the ecologist and environmentalist ones (LAV)

4FFG1. ma guarda, io alla LAV in particolare perché nel mondo dell'ecologia del naturismo per dieci anni allora si ho deciso di introdurre nelle scelte ecologiste ambientaliste anche quello animalista (LAV)

Table 30. *Content analysis themes for the focus group material: Involvement into the movement*

Themes	**Frequency**			**Extension**			**Evaluation**
	LAV	CSA +ENPA	Total	LAV	CSA +ENPA	Total	
1.Love for animals	3 t.u.	14 t.u.	17 t.u.	3	7	10	Positive
1.1.Cats and dogs		5 t.u.	5 t.u.		3	3	Positive
2.Acquaintances	2 t.u.	11 t.u.	13 t.u.	2	7	9	Positive
3.Vegetarianism	6 t.u.		6 t.u.	5		5	Positive
3.1.Respect for animals	4 t.u.		4 t.u.	2		2	Positive
4.Environmentalism	2 t.u.		2 t.u.	2		2	Positive

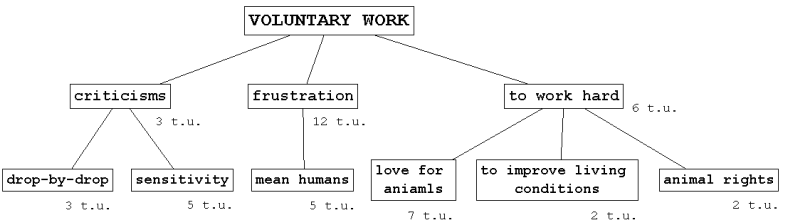
Note. t.u. = text units

Members of the three groups shared a common positive view of their approach to the movement. The love for animals, especially pets, appeared to be the most important reason leading them the world of the animalism. Moreover, acquaintances and the network of informal relationships could facilitate the approaching to the movement. This was true for members of all the three associations.

On the other hand, LAV members pointed to vegetarianism as a key feature of their attitude of respect for animals. This view was not shared by CSA and ENPA members. Besides, concern for animal welfare went hand in hand with concern for the environment (Table 30).

9.2.4.2 Voluntary work

Figure 21. *Concept map of thematic analysis for focus group material: voluntary work*



Note. t.u. = text units

No relevant differences were found between the reasoning of members of the three associations even if it LAV members mentioned this issue to a less extend than members of other groups. Activists complained about the hard work done at the dog and cat pound, and they put emphasis on the fact that animals required continuous attention and care.

Questions: How did you approach the group/the voluntary work? What are the most important reasons behind your choice to get involved into the group/voluntary work?

25FFG3 the we realised that voluntary working isn't just going to the dog pound in Colombaro, that there were other situations, other animals to take care of, it's very hard, I don't know if they would have mentioned that beforehand, I would have

25FFG3 e poi ci siamo resi conto che fare volontariato o meno non é solo andare in canile a Colombaro c´erano altre situazioni altri animali da gestire altre cose da gestire é molto pesante io non so se me l´avessero fatto vedere ci sarei stato perché é un sacco di

accepted, because it's a lot of voluntary work, as he said, its´ a never ending struggle (ENPA)

25FFG3 in practice, they are a commitment, keeping animals is a commitment (ENPA)

volontariato che come dice lui é una lotta senza fine struggle (ENPA)

25FFG3 pero´ a livello pratico sono un impegno cioé aver degli animali é un impegno (ENPA)

When explaining the reasons behind their hard-working at the dog and cat pounds, participants mentioned their love for animals once again. Participants aimed at improving animals´ living conditions and at having animal rights respected.

Questions: How did you approach the group/the voluntary work? What are the most important reasons behind your choice to get involved into the group/voluntary work?

21FFG2 for sure, the first thing is the love for dogs (CSA)

41FFG5 but you do it gladly, since it's a sacrifice, but everything is proportioned then, because when you go in a colony and there are hungry cats, and they run after you, and maybe there is a peculiar cat, which isn't friendly, but it recognises you, it gives you the satisfaction, it gets closer, you're never able to touch it, but it eats, it gives you satisfaction, then you realize then you understand that they understand you (ENPA)

27MFG3 to me, first of all, as she said, it's a commitment but at the same time I think I´m lucky in the sense that you have to give a lot in order to make its life a decent life at least (ENPA)

27MFG3 but I think someone doing it is needed, since anyway they [animals] have unfortunately less rights, but still

21FFG2 sicuramente la prima cosa è l'amore per i cani (CSA)

41FFG5 pero´ lo fai anche volentieri perche´ poi ti dico sono sacrifici ma e´ tutto poi relativo perché quando vai in una colonia e ci sono gatti che hanno fame che ti corrono dietro che magari é un po´ che il gatto e´ un po´ particolare non ti da magari tanta confidenza pero´ ti riconosce allora ti da soddisfazione ti viene vicino non si fa toccare mai pero´ mangia mentre gli dai da mangiare insomma son soddisfazioni allora capisci che allora vedi che capisci che capiscono (ENPA)

27MFG3 bhe per me come ha detto lei prima é un impegno ma io lo considero anche una fortuna nel senso che devi dare tanto per comunque renderlo rendergli la vita almeno dignitosa (ENPA)

27MFG3 pero´ ci vuole anche qualcuno che lo faccia anche per loro perché´ comunque hanno meno hanno purtroppo meno diritti

they have them too, and we try to make them respected (ENPA)

peró he hanno anche loro allora noi cerchiamo di farli rispettare (ENPA)

Despite the fact that the voluntary work at the dog pounds was perceived as rewarding, feelings of frustration were frequently reported by volunteers. In particular, one ENPA member used the expression "to tilt at windmills" as a metaphor for their daily based efforts. This view was expressed in opposition with the nastiness other humans showed when ill-treating animals. Humans were depicted as either responsible for animal suffering or uncaring.

Questions: How did you approach the group/the voluntary work? What are the most important reasons behind your choice to get involved into the group/voluntary work?

27MFG3 maybe we like tilting at windmills because there are many difficulties (ENPA)

27MFG3 ma forse ci piacciono le lotte contro i mulini a vento perché comunque le difficoltà sono tante (ENPA)

41FFG5 it spreads rapidly, since I've heard that there are… and slowly it spreads, and now we are holding up because we don't have enough to feed those ones [cats] (ENPA)

41FFG5 é una macchia d´olio perché ma ho sentito che la poi pian pianino pian pianino peró adesso ci stiamo dando un freno perché non abbiamo piu´ da dare da mangiare a questi quindi (ENPA)

42FFG5 on the other hand, we are opposed by everyone, and very often we have to be very careful feeding [cat] colonies, because it annoys people (ENPA)

42FFG5 d´altra parte pero´ d´altra parte sei osteggiato un po´da tutti perche´ tante volte appunto le colonie devi andarci con i piedi di piombo perché da fastidio (ENPA)

25FFG3 then I'm already repented, because unfortunately behind those animals there're always people, since we started all this because we knew that there was this dog pound and volunteers were needed in a structure where so many dogs were kept, there were about 90

25FFG3 peró ne sono anche giá pentita perché purtroppo dietro agli animali ci sono sempre le persone perché siamo partiti principalmente perché sapevamo che c´era questo canile dove c´era bisogno di volontari e pensavamo che probabilmente che ci fosse bisogno dentro una struttura dove

dogs, now they are 220, it means that people are not that nice and clever (ENPA)

ci sono tanti cani insomma allora tra l´altro erano una novantina adesso sono 220 questo vuol dire quanto la gente sia carina e intelligente (ENPA)

Most of the participants were working on a voluntary basis for the animal welfare and rights associations[49] and some of them reported being criticized for this. As a reply, members pointed out the effectiveness of their efforts as symbolized by the step-by-step philosophy, and their peculiar compassion for animals in pain.

Questions: How did you approach the group/the voluntary work? What are the most important reasons behind your choice to get involved into the group/voluntary work?

27MFG3 others say that they [volunteers] spend too much time after some dogs, after some animals, 90 out of 100 we are told that we should take care of the elderly instead of dogs, for heaven's sake there's somebody already taking care of people while for animals (ENPA)

27MFG3 o addirittura altri dicono e ste ore li lí quanto tempo stanno a perdere per dei cani per degli animali perché 90 volte su 100 ci sentiamo dire eh se invece teneste dietro a delle persone dei vecchi invece che dei cani c´e´ guai al mondo chi lo fa per le persone (ENPA)

32FFG4 basically because even if we're small or we're always few, even a small contribution at the end it changes something, since then we publish it, then somebody talks to somebody else, if each of use would do something, things would be better, so this is the incentive, being tenacious in order to try to spread more and more and then there is little done for animals (LAV)

32FFG4 fondamentalmente questo perché anche se si é piccoli oppure si pensa che vabbhé siamo sempre in pochi col cane pero´ anche un piccolo contributo alla fine muove sempre qualche cosa perché poi si fanno si pubblicizza perché poi uno parla con un altro insomma se ognuno di noi facesse qualcosa le cose andrebbero meglio quindi anche la spinata é anche questa essere tenaci per cercare poi di divulgare sempre di piu´ e quindi perché poi effettivamente c´é poco

[49] *Only one participant had a paid job for CSA.*

25FFG3 and I want to say that it isn't true that those voluntary working at ENPA… then I'm a blood donor, I've long-distance adopted a small girl since it is something I can do, then if I have to dedicate 24 hours of my time to something, then I would dedicate it to animals, but since 24 hours are a may hours, I can use this time for different activities (ENPA)

25FFG3 e poi voglio dire non é detto che chi fa volontariato all´ENPA… io faccio volontariato all´AVIS dono il sangue ho adottato una bambina a distanza perché é una cosa che posso fare poi se devo dedicare 24 ore del mio tempo a qualcosa lo dedico agli animali ma visto che 24 ore sono tante si possono dividere anche io (ENPA)

in giro per gli animali (LAV)

Table 31. *Content analysis themes for the focus group material: voluntary work*

Themes	**Frequency**				**Extensiveness**			**Evaluation**
	LAV	CSA	ENPA	Total	LAV	CSA	ENPA	
1. To work hard		4 t.u.	2 t.u.	6 t.u.		2	1	Negative
1.1. Love for animals		1 t.u.	6 t.u.	7.t.u		1	3	Positive
1.2. To improve living conditions			2 t.u.	2 t.u.			2	Positive
1.3. Animal rights			2 t.u.	2 t.u.			2	Positive
2. Frustration			12 t.u.	12t.u.			4	Negative
2.1. Mean humans			5 t.u.	5 t.u.			2	Negative
3. Criticisms			3 t.u.	3 t.u.			2	Negative
3.1. Drop-by-drop	2 t.u.		1 t.u	3 t.u.	2		1	Positive
3.2. Sensitivity	2 t.u.	1 t.u.	2 t.u.	5 t.u.	1	1	1	Positive

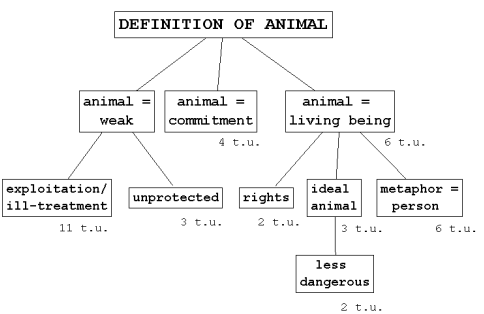
Note. t.u. = text unit

In Table 31 activists' attitudes toward their voluntary working was summarised. CSA and ENPA members complained about the hard work for the protection of animals and mentioned once again their love for animals as the main motivation driving them to commit for the improvement of the animals´ living conditions. Feelings of frustration were referred in a particular way by ENPA members, which were often criticized for their commitment in favour of animals. LAV members were less talkative than members of other groups.

Members of the three associations commonly depicted the animal welfare and rights activists as a sensitive and receptive being, empathizing with the animal and human suffer.

9.2.4.3 Definition of animals: the weak, the commitment and the living being

Figure 22. *Concept map of thematic analysis for focus group material: definition of animal*



Note. t.u. = text unit

Three views of animals emerged from the analysis. First, in a protectionist view, animals and especially dogs were depicted as weak

and vulnerable victims of the human beings. Words such as ill-treatment and relinquishment were frequent in their discourse. Animals were seen as exploited and ill-treated by humans. Most probably, this view rose from their everyday experience with abandoned dogs and wounded animals.

Questions: Could you define an animal?

1MFG1 and then keeping hens, what's the meaning? I've an animal confined in my property, why? It doesn't make any… I consider them as human beings, what if a person would be in the hen's place or kept on a tight rein in the dog's place, would [not] it be bad? Producing milk in the cow's place? What if a woman would be in the cow's place, with her bubs, kept pregnant constantly, would it be fair? (LAV)

25FFG3 [they were] 2 days old, they were 7, 6 died, and she [the dog present at the focus group] made it, inside a wheelie-bin at 2 years old… I would say that I love more animals than humans, they give you more (ENPA)

36FFG4 they are the most helpless beings in the planet (LAV)

31FFG4 I consider them as really maltreated beings, nobody takes care of them, if somebody runs over a dog, nobody stops to take care of it, now nobody stops the car even for a people, generally if something bad happens to a kid, then all Italy… if something happens to animals,

1MFG1. e poi anche tenere delle galline, che senso ha? che io devo avere un animale costretto nella mia proprietà perché capito? Non ha proprio…io li considero come esseri umani, se ci fosse al loro posto una persona al posto della gallina allora o al posto del cane legato, ci fosse una persona, a me cioè sarebbe brutto? Al posto della mucca che produce il latte, no? Se ci fosse una donna con le tette no che viene sempre tenuta costantemente gravida in gravidanza sarebbe giusto? (LAV)

25FFG3 due giorni, erano in sette, 6 sono morti, ed é rimasta lei, perché sai dentro un cassonetto del rusco due giorni io direi che voglio quasi piu´ bene agli animali che alle persone, danno tanto di piu (ENPA)

36FFG4 perché sono gli esseri più indifesi del pianeta (LAV)

31FFG4 poi li considero veramente esseri bistrattati perché veramente nessuno se ne interessa se investono un cane non si ferma nessuno adesso non si fermano neanche con le persone quindi quello pero´ in genere non so succede qualcosa a un bambino in genere tutta l´Italia ah succede

nobody cares. It's already hard to get some information [about the issue] (LAV)

qualcosa agli animali nessuno si muove insomma si fa già fatica ad avere notizie (LAV)

Second, participants valued pet animals and underlined that keeping a pet was about taking care of them. In this sense, meeting pet's needs was a serious commitment, requiring time and energy, as opposed to the so many ill-treated and abandoned pets they could observe on a daily basis.

Questions: Could you define an animal?

25FFG3 in practice, they're a commitment. Keeping animals is a commitment (ENPA)

25FFG3 pero´ a livello pratico sono un impegno cioé aver degli animali é un impegno (ENPA)

Third, animals were frequently referred to as living beings. The word "person" came out quite often in the interviews. This metaphor showed how volunteers endowed animals with a high status and this definition seemed to be rooted into an emotional exchange with animals. Animals were like people since they could experience feelings and emotions as people do.

Questions: Could you define an animal?

21FFG2 it's a living being, it's a living being with its own instinct, intelligence, soul and as such it is to be respected, as the plant, the flower, everything grows on earth. The man has been put on the earth, he has some kind of superior intelligence but it's duty is to lead, not to destroy. Animals belong to this (CSA)

21FFG2 è un essere vivente è un essere vivente che ha un istinto ha una intelligenza ma ha uno spirito e come tale va rispettato come poi va rispettata la pianta il fiore tutto per esempio quello che cresce sulla terra perché l'uomo è stato messo sulla terra ha un qualche livello di intelligenza superiore ma la sua responsabilità è quella di guidare non di distruggerlo e gli animali fanno parte di questo (CSA)

34FFG4 m: a living being with feelings, who experience

34FFG4 m: un essere vivente che ha dei sentimenti che vive delle

some emotions, moods as we do. It doesn't express them with the same language as we do, but in a different way (LAV)

31FFG4 we should be all equal. A life is a life then, being it a person or an animal (LAV)

1MFG1 and then keeping hens, what's the meaning? I've an animal confined in my property, why? It doesn't make any… I consider them as human beings, what if a person would be in the hen's place or kept on a tight rein in the dog's place, would [not] it be bad? Producing milk in the cow's place? What if a woman would be in the cow's place, with her bubs, kept pregnant constantly, would it be fair? (LAV)

22FFG2 It's a person going on all fours (CSA)

emozioni degli stati d´animo uguali a noi ma che non li esprime col nostro stesso linguaggio ha delle espressioni diverse (LAV)

31FFG4 questo é vero, invece dovremmo essere tutti uguali, una vita é una vita insomma che sia di una persona o di un animale (LAV)

1MFG1. e poi anche tenere delle galline, che senso ha? che io devo avere un animale costretto nella mia proprietà perché capito? Non ha proprio…io li considero come esseri umani, se ci fosse al loro posto una persona al posto della gallina allora o al posto del cane legato, ci fosse una persona, a me cioè sarebbe brutto? Al posto della mucca che produce il latte, no? Se ci fosse una donna con le tette no che viene sempre tenuta costantemente gravida in gravidanza sarebbe giusto? (LAV)

22FFG2 è una persona a quattro zampe (CSA)

Sometimes, the process of representing animals ended up in the idealization of the animals. In this view, animals were always positive entities, good and generous as compared to the mean humans. In particular, animals were described as less harmful for the environment than human beings and in this sense they were valued more than humans. Animal rights were mentioned twice by ENPA members.

Questions: Could you define an animal?

27MFG3 but to me in the same way they give to us more than what we give to them since they do it without any ulterior motive, they do it dispassionately, since they're naturally inclined to do it

27MFG3 peró allo stesso modo cioé loro ci danno secondo me di piú di quello che noi diamo a loro perché comunque lo fanno senza secondi fini lo fanno spassionatamente perché sono portati a farlo per natura (ENPA)

(ENPA)

33MFG4 let's say that we're different. Those causing less danger to the environment where they live, are more important. It's clear that the human being should ( ) If we have to choose, we should save those who damage less the environment (LAV)

27MFG3 but I think someone doing it is needed, since anyway they [animals] have unfortunately less rights, but still they have them too, and we try to make them respected (ENPA)

33MFG4 diciamo che non é l´importanza ma é diversa nel senso che é più importante chi fa meno danni all´ambiente in cui vive e quindi é chiaro che l´essere umano dovrebbe ( ) dovendo scegliere bisognerebbe salvare chi vivendo fará meno danni all'ambiente (LAV)

27MFG3 pero´ ci vuole anche qualcuno che lo faccia anche per loro perché´ comunque hanno meno hanno purtroppo meno diritti peró he hanno anche loro allora noi cerchiamo di farli rispettare (ENPA)

Table 32. *Content analysis themes for the focus group material: definition of animal*

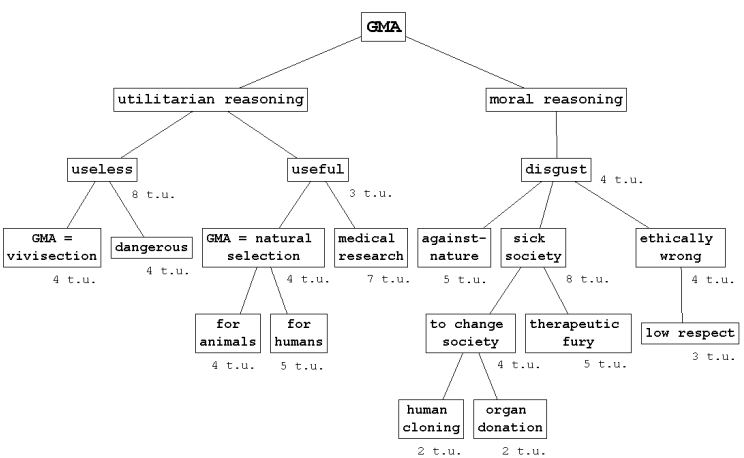
Themes	**Frequency**				**Extensiveness**			**Evaluation**
	LAV	CSA	ENPA	Total	LAV	CSA	ENPA	
1. Animal = weak								
1.1. Exploitation/ill-treatment	5 t.u.		6 t.u.	11 t.u.	3		3	Negative
1.2. Unprotected	2 t.u.		1 t.u	3 t.u.	2		1	Negative
2. Animal = commitment			4 t.u.	4 t.u.			2	Neutral
3. Animal = living being	3 t.u.	2 t.u.	1 t.u.	6 t.u.	3	2	1	Positive
3.1. Metaphor = person	5 t.u.	1 t.u.		6 t.u.	4	1		Positive
3.2. Ideal animal	1 t.u.		2 t.u.	3 t.u.	1		2	Positive
3.2.1. Less dangerous	1 t.u.	1 t.u.		2 t.u.	1	1		Positive
3.3. Rights			2 t.u.	2 t.u.			2	Positive

Table 32 showed the results of the content analysis for the focus group material about the definition of animal. The image of the animal as weak was shared by LAV and ENPA members who sow negatively the ill-treatments animals were liable to. Only ENPA members emphasized that keeping an animal and taking care of its needs was a personal commitment.

Members of the three associations sow animals as living beings, often referring to them as persons. Animal rights were mentioned only by ENPA members, and this argument did not seem central to participants' discourse.

9.2.4.4 Genetically Modified Animals (GMA) and conception of science

Figure 23. *Concept map of thematic analysis for focus group material: GMA*



Note. t.u. = text units

On the basis of the categorization process, activists´ view on the GMA issue seemed to be organised according to a continuum between

utilitarian and moral reasonings. On one hand, when approaching the issue of animal biotechnology, activists used an utilitarian category of reasonings and they took into consideration the usefulness of the animal biotechnology. On one side, GMA were thought as useful for the advancement of medical research and not dissimilar to natural selection. Much interestingly, the judgment over the biotechnological research varied in function of the aim. LAV members considered it useful when promoting animal well-being, while unacceptable when perceived as a further exploitation of animals by humans (Figure 23).

Questions: Media have reported about GMA, do you know the issue?What do you think about it?

27MFG3 indeed, that makes no sense but creating some totipotential cells that you can use for transplantation, creating a tissue that is going to be transplanted into an organism is able to create a new organ to me, it´s important (ENPA)

3MFG1 so, today´s use of genetic engineer isn't that different than Darwin's use (LAV)

3MFG1 I'm against everything is done to animals for human benefit, but if the research aims to improve the characteristics [then it is acceptable] (LAV)

1MFG1 are you joking? Nobody makes researches for the animal well-being, I'll tell you what, genetic modifications are done first of all to obtain hens without feather for instance. Second, to obtain huge cows or, how do you call it?, or calves or pigs so to enhance the profit. From one [cow] you can get more

27MFG3 infatti quello non ha senso pero´ il discorso di creare delle cellule primordiali diciamo che poi puoi utilizzare per i trapianti creare un tessuto che poi trapiantato in un organismo in grado di generare un organo nuovo cioe´ é una cosa che secondo me é importante (ENPA)

3MFG1 allora io l'uso dell'ingegneria genetica che se ne fa oggi non tanto lontana da quella che faceva Darwin (LAV)

3MFG1 io sono contro a tutto ciò che viene fatto agli animali per l'uso umano ma se la ricerca è finalizzata a migliorare le caratteristiche (LAV)

1MFG1 ma stai scherzando? Ma nessuno fa ricerche per il benessere animale, allora ascolta ve lo dico io, le modificazioni genetiche vengono effettuate primo per ottenere polli senza piume ad esempio, ok? Secondo per ottenere vacche o come si chiama? O vitelli o maiali giganteschi in modo che aumenta la rendita hai capito?

steaks or they are used to get pig's liver or pig's or monkey's heart that you can apply to humans with sick liver or for (LAV)

Perché esci una e fai tante bistecche oppure vengono usate per ottenere il fegato di maiale o il cuore di maiale o della scimmia che lo puoi applicare alle persone che hanno il fegato malato oppure per (LAV)

On the other hand, some activists sow animal biotechnology as useless and even dangerous for human health. The usefulness of xeno-transplantations is put into question. Animal welfare was taken into consideration when reasoning about GMA.

Questions: Media have reported about GMA, do you know the issue?What do you think about it?

3MFG1. then the [xeno-] transplantation doesn't work, then we know that it doesn´t [work] (LAV)

3MFG1 che il trapianto poi non funziona perché poi si sa che non (LAV)

6MFG1. unfortunately, there's a terrible problem, and nobody is mentioning, you have talked about transplantations, survival rate is practically zero (LAV)

6MFG1 purtroppo scusate c'è un problema atroce e che nessuno ci dice in effetti hai accennato ai trapianti, l'incidenza di sopravvivenza di un trapianto che è praticamente nulla (LAV)

25FFG3 why should we clone animals? There're so many of them already (ENPA)

25FFG3 perché poi clonare gli animali che ce ne sono giá talmente tanti (ENPA)

36FFG4 even extremely dangerous, modifying pigs for transplantations seems extremely dangerous to me, it gives the idea that you insert an organ of a different species into the human body, with all the problems linked to that species, the diseases, it seems to me a very dangerous carrier (LAV)

36FFG4 anzi altamente pericolosa assolutamente anche modificare i maiali per fare i trapianti cioé mi da l´idea che poi inserisci poi nel corpo umano un organo di un´altra specie poi con tutti i problemi legati a quella specie poi malattie mi sembra veramente un veicolo pericolosissimo (LAV)

32FFG4 we're exceeding and as you said, if we would really say, we don't even know in the end about the health issue and the

32FFG4 si stanno superando in maniera spudorata e poi queste cose qua come dicevi tu se poi uno volesse dire non sappiamo poi

consequences for the human healthof these kind of things (LAV)

neanche alla fine se uno volesse fare un discorso cosi´ proprio di salute e di conseguenze di queste cose qua (LAV)

When discussing their positions, interviewees mentioned vivisection as a metaphor for animal engineering. As vivisection turned out to be misleading and unreliable, in the future animal biotechnology will turn out to be scientifically mistaken and untrustworthy. Members show little faith in traditional science. Concern for animal welfare is always present in participants' discourse.

Questions: Media have reported about GMA, do you know the issue? What do you think about it?

36FFG4 vivisecting an animal, hurting it, this goes on the background [where] is the respect for human life? since the so-called scientists save human lives by stealing vital organs [from animals] for humans, [it means that] the end justifies the means, to me, the opposite is true in the sense that … (LAV)

36FFG4 cioé il fatto di vivisezionare un animale di farlo soffrire passa in secondo piano come dire rispetto rispetto appunto alla vita umana perché per i cosiddetti scienziati salvare vite umane quindi rubare organi vitali per l´uomo indipendentemente quindi il fine giustifica i mezzi per me é il contrario nel senso che …(LAV)

1MFG1 how come? You're against vivisection and you aren't agains, you are in favour of using animals for human transplantations? (LAV)

1MFG1 ma com'è? sei contro la vivisezione e non sei contro, [sei] a favore degli animali a trapianti umani? (LAV)

On the other hand, the activists pointed out the moral acceptability of animal biotechnology and disgust was the prevailing feeling about the issue. Interviewees thought that genetic engineer was an inappropriate tampering with nature and a moral concern was expressed about biotechnology. This applied both to crops and animals. To genetically modify organisms meant to go against nature and to interfere with the natural order.

Questions: Media have reported about GMA, do you know the issue? What do you think about it?

41FFG5 I've heard about that, it's disgusting, both for animals and for humans, we've been doing so well for thousands of years up to now, I can't see why we should modify them (ENPA)

34FFG4 it's against nature, if something is made in a certain way, then I think it's reasonable to respect it (LAV)

37MFG4 a metaphor comes to my mind to make you understand how it's wrong (…), for instance, the plastic, while in nature everything is created by nature, then it turns to nature, it demeans, the plastic lasts for thousands of years, in the same way, genetic modifications provoke irreversible modifications that alter the balance [of nature] (LAV)

41FFG5 é un discorso sentito parlare mi disgusta parecchio come per gli animali come per le persone siam sempre andati cosí bene da migliaia di anni a questa parte non vedo perché bisogna andare a fargli delle modifiche (ENPA)

34FFG4 si si va proprio contro natura, se una cosa é fatta in un certo modo credo che sia anche giusto rispettare (LAV)

37MFG4 mi viene in mente un paragone per far capire quant´é sbagliata (...) ad esempio la plastica mentre in natura tutto quello che é creato dalla natura poi ritorna alla natura si degrada la plastica dura per migliaia di anni concettualmente nello stesso modo la modificazioni genetiche fanno delle alterazioni irreversibili che alterano l´equilibrio [della natura] (LAV)

Modern society was perceived as sick and schizophrenic by LAV members. In this view, society was trying to remedy to damages it made itself by polluting and disrespecting nature. LAV members aimed at changing society, and they hoped for a more natural way of life in harmony with nature, where prevention played a fundamental role. One ENPA member suggested the promotion of human organ donation and another called for the cloning of humans, instead of animals.

Questions: Media have reported about GMA, do you know the issue? What do you think about it?

1MFG1 a sick one, aiming at self-destroying, it is trying to remedy to the health damages that we're provoking, since the cancer is provoked by us, it hasn't always been there,

1MFG1 malata destinata all'autodistruzione perché è un rimediare ai dei danni di salute che noi stessi causiamo perché il cancro che vuoi che dica il tumore viene per causa nostra non viene perché è

everything depends on us, we're talking about the respect for life, even if I'm getting well thanks to one animal, anyway it isn't ethical, secondly, it's not scientific, thirdly, the right way is to find the equilibrium in the planet, in our style of life, we shouldn't do research by hurting other forms of live, such as trying to remedy to our damages (LAV)

1MFG1 Then we shouldn't turn to these things, it's only the symptom of a schizophrenic society (LAV)

4FFG1. A sick one (LAV)

1MFG1 secondly, to me, what has been doing as remedy to the damages that man does to himself with his way of life and his behaviour, since we know very well that the prevention should be the most important thing of all, if we would behave in an appropriate different way, in a non-polluted environment, no stress, if we would eat in a correct way, we would have humane rhythms of work and if we would be resigned to the idea that we have to die before or after and it's useless to try to achieve immortality (LAV)

25FFG3 anyway I believe we should start to do it [cloning] on man, not on the pig (ENPA)

sempre venuto dipende tutto da noi e quindi rientriamo nel concetto intanto di rispetto della vita se anche fosse che io mi salvo grazie a un animale comunque non è etico farlo primo, secondo è antiscientifico, terzo la giusta via è trovare l'equilibrio nel pianeta nel nostro stile di vita non ricercare a scapito di altre vite come rimediare ai nostri danni capito? (LAV)

1MFG1 allora non ci sarebbe bisogno di ricorrere a quelle cose quindi non è altro che il sintomo di una società proprio schizofrenica (LAV)

4FFG1. malata (LAV)

1MFG1 punto secondo tutto quello che viene fatto viene fatto per rimediare per trovare il modo di rimediare ai danni che l'uomo fa a se stesso lui stesso con il suo stile di vita e il suo comportamento perché noi sappiamo benissimo che la prevenzione dovrebbe essere alla base di tutto quindi se noi ci comportassimo in maniera adatta diversa da in un ambiente non inquinato non stressato ci alimentassimo in maniera giusta avessimo dei ritmi di lavoro umani e fossimo anche rassegnati all'idea che prima o poi dobbiamo schiattare e quindi è inutile ricercare l'immortalità (LAV)

25FFG3 cioé comunque io credo che bisogna cominciare a farlo sull´uomo non sul maiale (ENPA)

As a result of a sick society where everyone wanted to live forever and nobody was ready to die, the scientists went as far as the

manipulation of nature. LAV members were disgusted by the therapeutic fury which seemed to characterize medical research.

Questions: Media have reported about GMA, do you know the issue? What do you think about it?

4FFG1. We're all highlanders (omissis) The problem is that nobody wants to die anymore (omissis), to me the world has its own biodiversity, which does exist, we want to modify all these rhythm, for what? To be more and more present, more and more greedy, older and older (LAV)

4FFG11. siamo tutti degli highlander appunto vogliamo essere appunto guarda il problema è ha detto una cosa molto bella faccio una citazione del mitico Beppe Grillo ben 4 o 5 anni fa quando forse ci si apriva sui trapianti o sulle che poi non era neanche così condannata insomma c'è una cosa bellissima il problema è che ne resterà soltanto uno cioè che non vuol più morire nessuno al mondo nessuno vuole più morire quindi tutto questo è fatto sempre e mi riallaccio al discorso che avevi fatto tu in funzione dell'uomo tutto questo la ricerca la manipolazione genetica non solo degli animali anche quelle botaniche per non dire quelle insomma sugli umani e quindi addirittura vogliamo aggiungere anche quella sugli animali che per ora non la caga nessuno io ma manco glie la metterei, cioè proprio eliminerei tutto questo perché comunque il mondo ha una sua

bio-diversità, che esiste nonostante noi cioè questo pianeta esiste nonostante noi, nonostante noi, noi vogliamo comunque modificare tutta una serie di ritmi per far cosa? Per essere sempre più presenti, sempre più golosi sempre più vecchi (LAV)

4FFG1. this is too much. I don't want to say that I should be

4FFG1. e questo è troppo capito poi non voglio dire non

the one drawing the line for the human intervention. I don't want to, but for sure the [xeno-] transplantation goes beyond curing, survival spirit, it´s… (LAV)

sono io a stabilire quale sia il limite di intervento dell'uomo e quale no assolutamente non voglio però vuoi mettere cioè sicuramente con il trapianto va oltre quello che può essere una cura uno spirito di sopravvivenza è proprio una cioè… (LAV)

LAV members were unease about genetic engineered animals. They reasoned about the acceptability of putting human benefit above the animal one. LAV members were against the human exploitation of animals, and in this vein they depicted the genetic engineering of animals as ethically wrong. The main argument characterizing their position was the lack of respect for animal lives.

Questions: Media have reported about GMA, do you know the issue? What do you think about it?

32FFG4 beside, it doesn't sound fair (LAV)

32FFG4 ma a parte questo non mi sembra neanche giusto proprio cosi (LAV)

24FFG3 above all, the low respect for animal lives, beyond the [importance of] science (ENPA)

24FFG3 e soprattutto il poco rispetto della vita degli animali al di lá della scienza o meno (ENPA)

23MFG3 I'm against simply because it doesn't make any sense that people modify genetically animals, and moreover it doesn't make any sense to make animals suffer without any good reasons, then if you mention the fact that you can modify animals since they're eaten anyway, I'm against anyway, animals have to ( ) totally against (ENPA)

23MFG3 sono contrario semplicemente perché non ha senso che delle persone modificare geneticamente degli animali e poi una ragione in piu´ perché comunque non ha senso infliggere delle sofferenze agli animali senza che ci sia una necessità poi non so se parli di modificare geneticamente perché comunque gli animali van mangiati comunque sono contrario, gli animali deve ( ) assolutamente contrario (ENPA)

23MFG3 thinking about killing somebody in order to make somebody else fell better, this is absurd (ENPA)

23MFG3 pensare di uccidere qualche d´uno per far star bene qualche d'un´altro é una cosa assurda (ENPA)

Table 33. *Content analysis themes for the focus group material: GMA*

	Themes	**Frequency**				**Extension**			**Evaluation**
		LAV	CSA	ENPA	Total	LAV	CSA	ENPA	
Utilitarian reasoning	1. Useful			3 t.u.	3 t.u.			3	Positive
	1.1. GMA = natural selection	4 t.u.			4 t.u.	3			Positive
	1.1.1. For animals	3 t.u.			3 t.u.	1			Positive
	1.1.2. For humans	5 t.u.			5 t.u.	2			Negative
	1.2. Medical research	1 t.u.		6 t.u.	7 t.u.	1		4	Positive
	2. Useless	4 t.u.	1 t.u.	3 t.u.	8 t.u.	3	1	2	Negative
	2.1. Dangerous	2 t.u.	2 t.u.		4 t.u.	2	2		Negative
	2.2. GMA =vivisection	3 t.u.		1 t.u.	4 t.u.	2		1	Negative
Moral reasoning	3. Disgust	2 t.u.		2 t.u.	4 t.u.	2		2	Negative
	3.1. Against nature	3 t.u.		1 t.u.	4 t.u.	3		1	Negative
	3.2. Sick society	8 t.u.			8 t.u.	3			Negative
	3.2.1 To change society	4 t.u.			4 t.u.	3			Negative
	3.2.1.1. Organ donation			2 t.u.	2 t.u.			1	Positive
	3.2.1.2. Human cloning			2 t.u.	2 t.u.			1	Positive
	3.2.2. Therapeutic fury	5 t.u.			5 t.u.	3			Negative
	3.2.3. Ethically wrong	4 t.u.			4 t.u.	3			Negative
	3.2.3.1. low respect			3 t.u.	3 t.u.			2	Negative

Applications of genetic engineering to animals were perceived positively by those participants representing this technology as useful for medical research, especially for animal benefit. On the other hand, genetically modified animals were viewed negatively by those pointing to the uselessness and dangerousness of this technology. The theme of the ethically unacceptability of this technology was prevalent among LAV member which maintained the need for respect of animals.

Disgust was the prevailing feeling among participants. Genetic modification of animals was seen as a process which went against the rules of nature. LAV members blamed our sick society and therapeutic fury for breaking the natural laws in order to achieve immortality and hoped for a new society where animals are respected. ENPA members promoted organ donation and preferred human cloning to the animal one.

Genetic engineer was associated with natural selection by those LAV members viewing GMA in a useful positive way, and with vivisection by those perceiving genetic engineer as misleading.

9.2.5 Reliability and validity of the data

Reliability requirements were addressed in that one researcher was responsible for conducting all the focus groups and the analysis of the material (Bauer, 2000). Moreover, the same focus group guideline was used across the groups (APPENDIX 11). Reliability of coding was tested by measuring interpersonal agreement between the researcher and one external judge. Whenever disagreement rose, the issue were discussed openly and the views tempered by one another. Transparency of coding was assured by the information contained into the codebooks (APPENDICES 14 & 15).

To address issue of data related validity the study group was of such size that after 5 groups the researcher has reached the saturation, having already heard the range of ideas. No new information was coming out (Krippendorff, 2004; Krueger &Casey, 2000). The emergence of substantively similar viewpoints on some issue in different focus group supported the semantical content validity.

As suggested by Bauer and Gaskell (1999) and Sotirakopoulou and Breakwell (1992), a multi-method approach, comprising semi-structured interviews and focus group, was used to collect data. Triangulation of different data sources was central to raise correlational validity and to promote better understanding of representation under study. Comparison of results with themes in extant literature are considered in the discussion section (paragraph 10.3).

9.3 Discussion

This study explored the content and the structure of the representations shared by the animal welfare and rights´ activists about their relationship with animals. What are the main features of the activists´ conception of animals? How do the activists represent themselves? Is this conception related to their definition of animals? Do the members of different animal rights groups have different representations of the human-animal relationship?

On the other hand, the representation of animal biotechnology was investigated. How do activists perceive animal engineering? What are the main characteristics of activists´ representations? How those representations are organized? Are those representations linked to the attitude toward science? And again, do member of different animal rights groups differ in their representation of animals?

9.3.1 Involvement into the movement and reasons behind their involvement

Not surprisingly, love for animals was a central motive behind activists´ involvement into the movement. Animal welfare activists were concerned with the protection of stray animals and they shared a caring attitude towards animals. People developed a sort of “culture of care and responsibility” towards animals, expressed thought the establishment of strong emotional ties, feelings of reciprocal love and respect, time spent

in the company of animals and a desire to enable animals to live a life as happy, as healthy and as free from suffering as possible (Macnaghten, 2001). Those results are in line with those by Shapiro (1994) who described the psychology of the animal rights activist as someone being sympathetic and attentive to animals and their well-being.

The positions shared by the ENPA, CSA and GZC members looked close to a protectionist view of animals, tracing back to compassionate attitudes toward animals originated in the England of the 18th century. Thomas (1983) discussed the historical origin of anthropocentric concern for animal well-being according to which it was wrong to cause unnecessary pain to animals. In this view, animals were brought into the sphere of moral concern due to their capacity to suffer by members of the emerging middle-class. This attitude was strictly linked to the growth of towns and the emergence of the industrial society where animals became progressively more marginal to the process of production. Several social forces such as urbanization, industrialization, democratization have caused a shift in humans' view of animals, from instruments to be used for food, clothing, and farm work to companions to be cherished. Members did not question the relationship of humans with animals and focused on the protection of domestic animals, such as cats and dogs. Those positions recall the welfarist views discussed by Jasper and Nelkin (1992) when analyzing the nature of the animal rights movement. Despite the lack of empirical support, Jasper and Nelkin (1992) convincingly claimed that the welfarist view was part of a larger humanitarian tradition of helping others and were focused on the protection of pet animals in opposition to a fundamentalist view, struggling to protect animal rights without compromising.

Pre-existing social networks played a central role for the recruitment of new members. Acquaintances were often mentioned as mediators for the activists' involvement into the movement (Jasper & Poulsen, 1995).

9.3.2 Fundamentalist view and vegetarianism

Digard (1990, 1993) pointed out that one of the contradictions insight our relationship with animals is that in modern society domesticated animals are divided in two categories endowed with different states. On one hand, Europeans live with millions of pets or companion animals, who are nourished, anthropomorphized and considered as part of the family. On the other hand, a great number of the so-called "useful" animals, such as cows, pigs, chickens etc., are eaten, ill-treated and exploited in indifference. Their compassionate feelings have driven LAV members to put into question the role of animals in modern society and to place animals at the centre of their moral universe. In particular, their opposition to animal use led them to a vegetarian or vegan (no animal products whatsoever) diet contrasting with the traditional one centred on pork meat, historically rooted in the economic system of this rural region (Ballarini, 1998). They struggled to keep their beliefs in line with their way of life and described vegetarianism as major sign of their respect for animals (Herzog, 1993; Mannucci, 1997). In this sense, the animal became subject of right to live and to enjoy well-being. Their positions recall the fundamentalist one described by Jasper and Nelkin (1992) maintaining that the assumption of an animal rights perspective bears similarities to religious conversion. Those similarities include a fundamental shift in worldview and change in life style (i.e. diet). Sutherland and Nash (1994) argued that this set of elements constituted an alternative "environmental cosmology" (p.171) and took the role of frame of reference for life.

9.3.3 Activist's representation of animal

SR theory implies that individuals sharing a common reference can hold different positions. Social positioning is defined as the expression of an opinion together with the process by which the shared knowledge is anchored in different groups (Clémence, 2001). In this vein, the study of

social representations becomes strictly linked with the study of organizing principles of individual differences or positioning (Doise, Clémence & Lorenzi-Cioldi,1992).

The social positioning toward the human-animal relationship, that is the process by which people take up position about the network of meaning related to our relationship with animals, was oriented by the definition of animals that activists used when they evaluated their relationship with animals. When activists considered animals as weak victims, they adopted a protectionist view of animals where their love for animals was translated into the protection of animals. In this vein, animals were weak and unprotected victims of strong human beings, which mistreated and exploited them. This result is consistent with those of the pilot study by Pivetti (forthcoming). On the other hand, when they considered animals as source of well-being on the same level than a human being, they talked about a mutual understanding and a love exchange with animals. Moreover, when they considered the animal as a commitment, they represented their relationship with animals as taking care of them and their needs. In this sense, the definition of animal worked as an organizing principle of the activists´ representation of the human-animal relationship. In other words, the opposition between the animal as victim/animal as a person seemed to be the organizing principle of individual differences about the activists' relationship with animals.

The definition of an animal as a person seemed to underline the general beliefs that animals and human beings were mostly similar. Activists seemed to put the animal and the human being on the same level and to ground their reasoning on this belief. Opotow (1990) suggested that the perception of similarity between animals and humans could affect people's concern about animals and this claim is supported by the findings by M.O.R.I. (1999).

9.3.4 Activists' self-definition

Doise (1988) and Elejabarrieta (1994) suggested that the self-definition, that is the way individuals think about themselves, could be studied using a qualitative approach as the representation individuals construe of themselves on the basis of their social positioning or group membership. Those arguments are in line with those by Davies and Harré (1990) which maintained that during and through discursive practices the speaker and the hearer construe and negotiate reciprocally their selves.

Results show various definitions of the activist. On one hand, defining an animal as a victim implied the existence of mean humans mistreating them and the existence of compassionate humans taking care of them. In this sense, the group of activists defined itself by means of their compassionate feelings for animals and their struggling to protect animals, as opposed to members of the other group of individuals ill-treating animals. The definition of animal as a commitment seemed to be a shade of the "animal as victim" one, in the sense that the activist appeared once again as a caregiver. On the other hand, defining an animal as a person implied the establishing of a peer relationship with the animal characterized by mutual understanding and love exchange. In this vein, the self-definition of the activist consisted of a being similar to animal.

9.3.4.1 The voluntary work and the construction of activist's self definition

Activists were used to directly confront the external claims and the criticisms they received concerning their voluntary work and commitment for the animal cause. Replies to this claims contributed to build the activists' self-definition. The activists described themselves as sensitive beings struggling to improve animal welfare in opposition to other, indifferent humans. Those results are congruent with those by Einwohner (2002b) who found that out-group members were not simply audience for animal welfare and rights protest but played key roles in the formation of activists' individual and collective identity.

9.3.5 Representation of genetically modified animals

Wagner and Kronberger (2002a) suggested that when something new strikes the attention of individuals, they engage in a process of collective material and symbolic coping with the new, that is a sense-making activity which involves the naming and attributing characteristics to it in order to make it intelligible and communicable. In this understanding, collective symbolic coping means the process of appropriating the unfamiliar in order to provide an immediate understanding of the new and a means for talking about it. Objectification is the process by which members of a group reach the consensus over a trope or discourse, making the new a part of the individuals´ symbolic world. The trope does not have to be scientifically true but simple, embedded into the group's frame of reference and its symbolism have to be coherent with the group's prevalent discourse. Since biotechnology is an important source of innovation in contemporary society, and people do not have the resources in terms of education and time to examine the scientific literature on the issue, then lay people need to develop an understanding of the phenomenon in order to come to terms with it.

Along with the European public views (AEBC, 2002; Breakwell, 2002; Gaskell et al., 2000; Hampel, Pfenning & Peter, 2000; Singer, Corning & Lamias, 1998) animal welfare and right activists are uneasy about animal biotechnology. Results of interviews and focus groups were consistent with one another.

The social representation of GMA was organized according to intersecting utilitarian and moral reasoning. On one hand, activists reflected the public views on the issue and were supportive of medical applications of animal biotechnology (Gaskell et al., 2000; Hampel, Pfenning and Peters, 2000; Pfister, Böhm & Jungermann, 2000). The potential for biotechnology to help cure diseases was generally judged to be an important improvement. In this reasoning, the prevalent ethical approach was the so-called utilitarianism, according to which the evaluation of animal biotechnology should rely on its good consequences. Among those supporting a positive evaluation of the consequences of the given technology, the representation of GMA was

objectified in a metaphor pointing to the natural selection and breeding. In this view, animal biotechnology was not dissimilar to common agricultural practices such as selective breeding.

On the other hand, activists' concern included a fundamental moral objection to the human use of animals in general, and a more specific one to their genetic modification. In particular, LAV members adopted a deontological reaction against the proposed technology as intrinsically violating the respect for animals. Moreover, activists were concerned about the consequences of genetic modification and the unforeseen mistakes arising from the use of this technology (The Boyd Group, 1999; Macnaghten, 2001).

In this vein, the genetic manipulation of animals was negatively described as disgusting and aberrant. In particular, activists were wary of "going against nature" and this result was congruent with those by Wagner and Kronberger (2002a) and by Macnaghten (2002). Wagner and Kronberger (2002a) found that public coping with biotechnologies was characterized by a growing moral concern about humans interfering with the natural order. Genetic engineering was described as inappropriate tampering with life and with the order of nature where every species has its place and purpose and where natural boundaries should not be transgressed by unnatural means.

This tendency to identify species as sacred things comes on one hand from the Judaeo-Christian tradition sustaining the belief that God is the one who creates kinds, and on the other hand from the Aristotelian argument that species are in some sense real and immutable units of classification. If natural species are fixed and clearly separated elements created by God, then melting with the natural order is a metaphysically wrong. Moreover the rigid dichotomy between nature and culture, which is ubiquitous in Western thought, could buttress the idea that genetic engineering of animals is intrinsically wrong. In other words, if the realm of nature is given and distinct from the realm of human artifice, it represents a sin to introduce artifice into nature (Rollin, 1995).

Michael (2001) suggested that Europeans' uneasiness about animal biotechnology could be related to the fact that new technology, by

making the animals a completely artificial product, diminished the richness of the animal as a symbolic counterpart, usable for the formation of the human identity. People, in long having used animals as a symbolic resource in the structuring of social identities, are disoriented by the treat to that resource posed by biotechnology. In other words, if the animals are not anymore the resource of naturalness and the symbolic entity humans are trying to take distance from, then what are the characteristics of the human being? If the animal is artificial, then who am I?

9.3.5.1 Representation of xeno-transplantation

Activists perceived that humans´ desire to live forever has driven scientific research to the engineering of animals, which was seen as a further exploitation of animals by humans. LAV members defined contemporary society as sick in perpetrating therapeutic fury on humans which were striving to reach eternal life. The want to be immortal or young forever seemed close to be realised once science was capable of using animals as source of spare parts. The fulfilment of this wish was considered morally unacceptable. They support a new society where humans live healthy and in harmony with animals and nature.

9.3.5.2 Animal biotechnology and religion

Quite surprisingly, no claim opposing animal biotechnology was based on religious beliefs. Italy has been known as a Catholic country and the presence of the Pope and the Vatican so close to the Italian territory could testify and at the same time foster this character. Moreover, the sample was composed by 70% of religious people. One possible explanation is that the region where this study was run, that is Emilia-Romagna, was one of the most left-wing ones in Italy and the Catholic religion was not as rooted into the individuals' belief system as it was in some other regions.

10.3.5.3 Attitude toward science

Following the results by Wagner et al. (2002), a negative picture of science emerged and people involved in research were considered not to be acting responsibly. Activists had little faith in traditional science and described it as misleading. The vivisection was frequently used as a metaphor illustrating the objectifying process by which the representation of animal engineering was generated. The negative evaluation of animal experimentation spread as far as to include the modern application of biotechnology to animals. Activists reasoned from the animal point of view and encompassed concerns about the preservation of animal welfare and about the maintenance of standards of care in the treatment and use of animals.

9.3.6 Public understanding of science (PUS)

As compared to other European countries, in Italy public controversy on GMO has been found to be low and GM-related research activities were relatively insignificant (Marris, Wynne, Simmons & Weldon, 2001). Despite that, activists showed a great interest in animal biotechnology and many complained about the lack of information on the issue. Moreover, they pointed out the obscurity of the scientific procedures involved on one hand, and the difficulty to seize accurate knowledge among the many points of view, on the other hand.

Traditional PUS approach usually measures the levels of scientific literacy among general population, in the light that scientific literacy could render one more competent in everyday life, more able to make informed decisions and a better citizen. In the same vein, Wagner, Kronberger and Seifert. (2002) found that the less people knew about biotechnology, the more they assumed a positive attitude towards this technology. On the contrary, Pfister, Böhm and Jungermann (2000) found that even if knowledge about genetic engineering among Germans was poor and vague and that its evaluation was specific to certain applications and thus incoherent, there was a weak connection between

knowledge and acceptance of this technology. The so-called deficit model of PUS, which represents the "public" as lacking in scientific knowledge, has been roundly criticised and sociologists have acknowledged that there was a need for more effective ways of hearing what people were saying about genetics (Edwards, 2002).

On the other hand, critical PUS tended to focus on the understanding of what is called "lay local public", that is people in their everyday local setting possessing relevant knowledge and skills that reflect local cultural and material conditions (Michael, 2001). Those positions are close to those by Wagner, Kronberger and (2002c) who maintained that understanding technology passed through an intermediate stage where the public compensated the lack of scientific literacy by using images and representations which were the results of a collective symbolic copying with the new phenomena. The public understanding of science consisted in the formation and using of a social representation allowing them to balance for the lack of scientific literacy on the subject.

9.4 Methodological concerns

Despite the differences in the sample composition, the interview and the focus group materials were coherent. The main findings concerning the reasons behind the activists' involvement into the movement, their definition of animal, their approach to the voluntary work, the genetically modified animals as collected during interviews were congruent with those collected during focus group. Of course, focus group materials were richer than the interviews´ due to the social dimension of the setting, which stimulated verbal exchanges (Kitzinger, 1994).

The small sample size could undermine the basis of the conclusion but the aim of the study was to qualitatively investigate representations of a given population, the animal welfare and rights activists, and not to survey the Italian animal rights movement. Moreover the data collection is a time-and money-consuming phase of the research in which the researcher has to carefully weight costs and benefits.

Some of the interviews were run under time-pressure and this might have reduced the accuracy of the findings. Some of the participants were hard to get in contact with and the interviews were arranged during their duties at the dog and cat pounds.

A few participants belonged to more than one association and thus the assumptions made about the beliefs related to their group membership might be questionable. On the other hand, the fact that members of the same association hold different views on an issue, has stimulated lively discussion and has produced precious material.

The researcher found it difficult to maintain a neutral attitude towards the topics of the discussion. Given the qualitative nature of the methodology and the fact that in this kind of methodology the researcher is the real instrument for the data-collection, the researcher found herself involved into the group discussion and had to check herself in order to avoid to intervene in the discussion and openly express her comments.

10. FINAL DISCUSSION

10.1 The study in a nutshell

The aim of this study was to investigate the animal welfare and rights activists' representation of animals and animal biotechnology in a small region of Italy. While psychology and sociology have recently started to devote some attention to the psychology of the animal welfare and rights activists (e.g. Einwohner, 2002; Nibert, 1994; Jasper & Poulsen, 1995), the social representation theory has never been used as a theoretical framework within which to study the universe of reasoning behind the ARM.

We believe that belonging to the animal welfare and rights movement represents a lifestyle choice in the full sense of the term which is based on a social representation or a system of meanings, shared to a different extend within the movement. For this reason, the social representation theory is a useful framework to investigate the social construction of collective meanings concerning the human relationship with animals and the appropriate use of animals in modern society.

Many have pointed to the conception of nature as socially constructed, varying according to cultural and historical determinations (Agamben, 2002; Baratay, 2003; Martinelli, 2002; Rivera, 2000). According to the nature-culture dichotomy, typical of the Western discourse, nature was defined negatively as that order apart of reality, which existed independently from human action. In this way, a wide-spread tendency to use a dualistic schema or representations helped to

include the complexity of real life under a set of categories of relation. The human-animal relationship underwent the same fate.

Medieval and Renaissance theology and philosophy were wholly anthropocentric. Nature was created for the interest of humans which were entitled to treat it as they chose. Some authors have interpreted this distinction between humans and animals as a useful background for the domination and manipulation of nature (Midgley, 1983; Thomas, 1983; Serpell, 1986). Major changes occurred gradually over 3 hundred years and many factors have contributed to the shift from anthropocentrism to anthropomorphism and sentimentalised attitudes toward animals in the early modern period such as 1) the emergent scientific interest in natural history and biological sciences, 2) urbanisation and industrial revolution, 3) pet-keeping (Franklin, 1999; Serpell & Paul, 1994; Thomas, 1983).

Since the 70s the modern animal rights movement has maintained the individual animal intrinsic value and on this basis, has challenged the use of animals for human benefit. Recent developments in genetic engineering have posed new questions about the human intervention on nature and on the modification of the bounds between species. On one hand, animal biotechnology was viewed as natural progressive evolution from selective breeding, while on the other hand it was perceived as a major human intervention on nature. In the latter sense, individuals were unease about the manipulation of nature which related to the corruption of integrity of the nature of animals and other undesirable effects of resulting from such manipulation. Concern was expressed about the preservation of animal welfare and about the environmental impact of GM animals (AEBC, 2002).

The analysis of European legislation on animal experimentation and animal biotechnology led to the conclusion that all member states were in the process of implementation of European directives up to the complete alignment of all member states. In particular, the Italian legislation was the only one promoting Conscientious Objection to animal experimentation in Europe, through the law *n. 413/1993*. This law recognised the right not to perform experiments on animals and the right to use alternative methods, in workplaces and Universities. Students as

well as researchers could declare their opposition to violence on animals to the research director or course teacher, and nobody should be discriminated in workplaces because of that.

An exploratory study on animal experimentation in Italy and Finland highlighted similar social representations and attitudes in the Italian and the Finnish samples. In particular 1) prospective doctors were faithful to science and favour animal experimentation; 2) laypeople shared an emphatic attitude towards animal suffering; and 3) animal right activists, obviously, opposed animal experimentation, and seemed to be more informed about alternatives methods.

A study was carried out in order to test the methodology and the research questions. Results showed that the activists' representation of animals was generated from the love/pain thema, opposing the compassionate love of activists for animals on the one hand and animal suffering on the other hand. Differences existed in the way members of animal welfare and rights groups constructed their view of animals. While CSA and ENPA members aimed to protect abandoned animals, LAV members faced the contradictions within the human-animal relationship and endorsed a more coherent approach to our fellow creatures. The Universal Declaration of Animal Rights (UDAR) was not well known by the activists and seemed to be a marginal element of the representation of animal rights.

The present study was a multi-method one (Bauer & Gaskell, 1999; Sotirakopoulou & Breakwell, 1992). On one hand, social representations were investigated qualitatively by interviewing a group of animal welfare and rights activists by means of face-to-face interviews (n=16) (Gaskell, 2000) and by means of focus group discussion (n=22) (Krueger, 2000). Results were analysed with the NUD*IST software. On the other hand, activists (N=41) filled in a written questionnaire involving a free-association task (e.g. De Rosa, 1988). Results were quantitatively analysed using SPAD-T 5.0.

10.2 Representation of animals

Results of the free-association task and of the interview material were consistent in that both studies depicted the animal rights movement as a heterogeneous movement. Inside the animal welfare and rights movement, an important dimension around which the representation was organized was the protectionist vs the fundamentalist one (Jasper & Nelkin, 1992). On one hand, members of associations such as GZC, non vegetarians held a protectionist view emphasizing sentimentalist concern for animal well-being and willingness to improve animal living conditions. Those sentiments trace back to the protectionist view originated in 18th century described by Franklin (1999) and Thomas (1983).

On the other hand, the fundamentalist view shared by LAV members focused on the respect for animal life which was proved by their vegetarian or vegan diet. During the last 20 years, the vegetarianism has been spreading across Western countries. In particular, the ethical vegetarianism seems to be a progressive extension of moral concern to embrace animals as moral subjects. Moreover, these results were in line with those by Herzog (1993), pointing to the activists' struggling to keep their beliefs in line with their behaviours. In this view, vegetarianism was strictly linked to ethical arguments of Singer (1975), Midgley (1983) and Regan (1983).

LAV members also focused on the discourse of exploitation of animal life while students did not mention this issue. This result was congruent with the relevant literature on the issue which underlined how animal welfare and rights activists called into question human relationship with animals and hoped for a more equal society where animals were not exploited and they were treated with respect (Singer, 1975; Regan, 1983).

Moreover, the representation of animals was strictly linked to the definition of animals shared by members. When activists considered animals as weak *victims*, they adopted a protectionist view of animals where their love for animals was translated into the protection of

animals. In this vein, animals were weak and unprotected victims of strong human beings, which mistreated and exploited them. This result reflected those by Pivetti (forthcoming). On the other hand, when they considered animals as source of well-being on the same level as a *human being*, they talked about a mutual understanding and a love exchange with animals. Moreover, when they considered the animal as a *commitment*, they represented their relationship with animals as taking care of them and their needs. In this sense, the definition of animal served as an organizing principle of the activists´ representation of the human-animal relationship.

10.3 Activists´ self definition

Following the suggestions by Doise (1988) and Elejabarrieta (1994), the way activists defined themselves was studied according to group membership or social positioning of the activists. In turn, the activists´ membership to an animal welfare and rights organization was related to the meaning they attributed to the animals and to the voluntary working.

Defining an animal as a victim implied the existence of mean humans mistreating them and the existence of compassionate humans taking care of them. In this sense, the group of activists defined itself by means of their compassionate feelings for animals and their struggling to protect animals, as opposed to members of the other group of individuals ill-treating animals. In this sense, the definition of animals functioned as a valuable tool for the achievement of a positive self-definition.

10.4 Representation of animal biotechnology

Along with the European public views (Breakwell, 2002; Gaskell et al., 2000; Hampel, Pfenning & Peter, 2000; Singer, Corning & Lamias, 1998) animal welfare and right activists were uneasy about animal biotechnology. Results of interviews, focus groups and free-associations were consistent. The genetic manipulation of animals was negatively

described as disgusting and aberrant. In particular, activists were wary of "going against nature" and this result was in line with those by Wagner and Kronberger (2002a) and by Macnaghten (2002). Wagner and Kronberger (2002a) found that public coping with biotechnologies was characterized by a growing moral concern about humans interfering with the natural order. Genetic engineering was described as inappropriate tampering with life and with the order of nature where every species has its place and purpose and where natural boundaries should not be transgressed by unnatural means. Quite surprisingly, students expressed more negative views of animal biotechnology than activists and this data remain to be explained.

Moreover the rigid dichotomy between nature and culture, which was ubiquitous in Western thought, could buttress the idea that genetic engineering of animals was intrinsically wrong. In other words, if the realm of nature was given and distinct from the realm of human artifice, it represented a sin to introduce artifice into nature (Rollin, 1995).

Michael (2001) speculated that Europeans' uneasiness about animal biotechnology could be related to the fact that new technology, by making the animals a completely artificial product, diminished the richness of the animal as a symbolic counterpart usable for the formation of the human identity. People, in long having used animals as a symbolic resource in the structuring of social identities, were disoriented by the treat to that resource posed by biotechnology.

The cloning of Dolly the sheep has deeply affected the public imaginary, in particular the students'. The students´ most frequent word was "Dolly" and this might reflect the broad emphasis the Italian press gave to the news in the 1997 press release. Given its high accessibility, Dolly the sheep could be referred as the objectification of the representation of animal biotechnology, and the mental image to which laypeople referred to when thinking about animal biotechnology.

10.5 Attitude toward science

Following the results by Wagner et al. (2002), the picture of science that emerged was a pessimistic one, and people involved in research were considered not to be acting responsibly. Activists have little faith in traditional science and describe it as misleading. The vivisection was frequently used as a metaphor, and illustrated the objectifying process by which the representation of animal engineering was generated.

10.6 Public Understanding of Science (PUS) and SRT

The results reported by Wagner and Kronberger (2002a) and by Wagner et al. (2002) referred to public attitudes towards biotechnology in general and we would say that our results went into detail in the examination of the public perception of animal biotechnology. In this sense, the study of the representations of science could match recent development in the public understanding of science. Our point of depart was close to the critical PUS which tended to focus on the understanding of what was called “lay local public”. In this vein, people in their everyday local setting possessed relevant knowledge and skills that reflected local cultural and material conditions (Michael, 2001).

Those positions recalled those by Wagner, Kronberger and Seinfert (2002c) who maintained that understanding technology passes through an intermediate stage where the public compensate the lack of scientific literacy by using images and representations which were the results of a collective symbolic copying with the new phenomena. The public understanding of science consisted in the formation and using of a social representation, allowing them to balance for the lack of scientific literacy on the subject.

10.7 Critical insight

The aim of the study was to qualitatively investigate the representations of a given population, namely the animal welfare and rights activists in Italy. In this light, one of the novelties of the study was the successful use of the social representation theory as a theoretical framework for the study of the belief system underlying the movement. Moreover, some suggestions were advanced on the role played by social representations and the definition of animals in the formation of group members´ self-definition.

The study of the representation of animal biotechnology furthered the understanding of the popularisation of such technology in Italy and attempts were made to merge the social representation theory and the tradition of public understanding of science.

It is hoped that further research will be carried out in the field in order to clarify the meaning of these results and to try to replicate them.

GLOSSARY ON ANIMAL BIOTECHNOLOGY

Application of genetic modification technology to animals	1) in medical research to create models of human diseases, 2) for safety testing; 3) to produce milk which contains therapeutic proteins, so-called "pharming", 3) to provide organs and tissue for use in human transplant surgery; 4) to use in intensive agriculture.
Biotechnology	The application of organisms, biological systems or biological processes to manufacturing and service industries; modern biotechnology uses recombinant DNA technology to give GMOs desirable characteristics
Cloning	The production of genetically identical organisms, cells or biological molecules from one individual cell through asexual processes that do not involve the interchange or combination of genetic material
Genetic engineering	The process by which a living organism's genetic make-up is changed by eliminating, modifying or adding copies of specific genes from other organism through modern molecular biology techniques
Genetically modified animals	Those animals whose genetic material has been altered by genetic engineering.

(GMA)

Source: Commission of the European Communities (2001); Biotechnology and Biological Science Research Council (n.d.); Genewatch (n.d.)

The term animal biotechnology covers many well established procedures of conventional livestock breeding such as performance testing and the use of artificial insemination as well as some recent developments that involve genetic modification, which is the direct manipulation of an animal's genetic make-up. Genetic manipulation covers two types of activity: 1) altering the genes normally present in a individual is such a way that the alteration is passed on to its descendent, and 2) transferring a gene or genes from one individual to another of the same species, or of different species producing transgenic animals (Biotechnology and Biological Science Research Council, n.d.).

The first genetically modified animals were transgenic (i.e. possessed active copies of a gene or genes inserted from another individual) mice, created in the 80's. Since then, further techniques have been developed. Besides inserting genes, it is now possible to knock out specific genes or to make large-scale genetic alteration. Such animals are now called GM animals, including transgenic animals and those genetically altered by other means (Parliamentary Office of Science and Technology, 2001).

A clone is a genetically identical individual grown from a single cell of an embryo or an adult. Cloning has been achieved by nuclear transfer, where the nucleus (containing the genetic material) of the cell to be cloned is inserted into an egg from which the nucleus has been removed. An electric current is used to fuse the donor nucleus with the recipient cell and to start embryonic development. The embryo is transferred into the womb of a female and the animal that develops and grows from the embryo is a genetic copy of the animal from which the donor cell was taken (Genewatch, 2002). Mice and frogs were successfully cloned from

embryonic cells in the 80's while the first report of a clone from an adult somatic cell was Dolly the sheep, in 1997.

There are two reasons for animal cloning: 1) to make copies of valuable animals which may have been conventionally bred or genetically modified; 2) to facilitate the production of genetically modified animals by screening embryo cells and cloning those which have correctly integrated the introduced genes at the correct site.

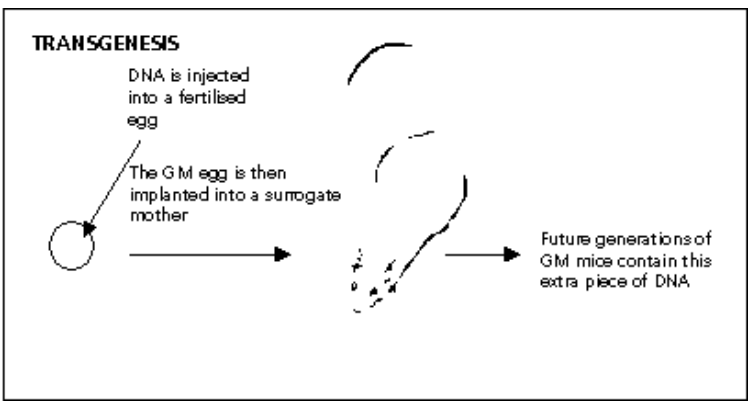
Application of genetic modification technology to animals can be used in medical research 1) to create models of human disease; such models help identify disease pathways and allow assessment of new therapies; 2) to understand gene function; 3) for toxicity testing of chemicals and drugs; 4) to produce human therapeutics in their milk or other tissue; 5) to make organs available for xeno-transplantation preventing acute rejection of transplanted organs. In agriculture, the modification of farm animals aims to 1) confer disease resistance to animal pathogens; 2) to make desirable alteration to growth rates; 3) to alter meat and milk composition to enhance its nutritional status and to meet consumers' taste (The Royal Society, 2001).

Currently, the overall number of procedures involving animals has decreased while the number of GMA used is increasing during the last 15 years. Mice account for the majority (98%) of procedures involving GM animals with the rest comprising rats (1%) and pigs, sheep, domestic fowl, amphibians or fish (1% combined) (Parliamentary Office of Science and technology, 2001).

The efficiencies of genetic modification of animals and allied technologies such as cloning are extremely low. The percentage of animals reaching adulthood per manipulated egg ranges from 0,5% in cows to 1% in sheep. Moreover, cloned embryos tend to have severe abnormalities, resulting in a high abortion rate and the majority of those that are born alive seem to have some form of health defect. It has been recently reported that Dolly has developed arthritis of the hip and knee which could be a results of genetic abnormalities from the cloning process (Genewatch, 2002).

Potential perils for human safety of developing GMA involve new or increased allergic reactions in humans to the animals if used as a source of food. From the animal welfare point of view, those hazards include changes in animal behaviour such as increased aggression and possible pain and suffering during the procedures. Moreover, the preservation of the environment could be affected by the accidental release of animals and toxic proteins in the environment (The Royal Society, 2001).

Figure 24. *Genetic modification*



Source: Royal Society report (2001)

http://www.royalsoc.ac.uk/scienceinsociety/data/sciencebriefs/gm1.htm

GLOSSARY ON EUROPEAN LEGISLATION

The EU animal welfare legislation is legally binding upon Member States and the country can be taken to the European Court of Justice for any cases of non-compliance. The EU legislation takes the form of:

1) Regulations, they have general application and direct force of law in all member states. If there is conflict with a national law, the regulation prevails. There is no need to transpose regulations into national legislation for them to take effect;

2) Directives, binding on member states as to the results to be achieved but leaves the method of implementation to national governments. They should be transported into national laws;

3) Decisions, they are binding on those to whom they are addressed (can be Members States, companies or individuals).

Based on the new Art. 34 of the EU Treaty, a Convention is adopted by unanimous decision of the Council after consulting the European Parliament and then ratified by the Member States in accordance with their respective constitutional procedures. After being ratified by at least half the Member States, a Convention enters into force in those states.

Sources: http://europa.eu.int/index_en.htm;
http://www.worldanimal.net/eu-legis.html

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APPENDIX 1

List of abbreviations

AB	Animal Biotechnology
ARM	Animal Rights Movement
CA	Correspondence Analysis
ECVAM	European Centre for the Validation of Alternative Methods
ES	Embryonic stem
GMA	Genetically Modified Animals
GMOs	Gentically Modified Organisms
LIDA	Italian League for Animal Rights
PUS	Public Understanding of Science
SIT	Social Identity Theory
SRT	Social Representation Theory
UDAR	Universal Declaration of Animal Rights

APPENDIX 2

The Universal Declaration of Animal Rights[50]

Preamble:

- Considering that Life is one, all living beings having a common origin and having diversified in the course of the evolution of the species,

- Considering that all living beings possess natural rights, and that any animal with a nervous system has specific rights,

- Considering that the contempt for, and even the simple ignorance of, these natural rights, cause serious damage to Nature and lead men to commit crimes against animals,

- Considering that the coexistence of species implies a recognition by the human species of the right of other animal species to live,

- Considering that the respect of animals by humans is inseparable from the respect of men for each other,

It is hereby proclaimed that :

- Article 1. All animals have equal rights to exist within the context of biological equilibrium. This equality of rights does not overshadow the diversity of species and of individuals.
- Article 2. All animal life has the right to be respected.
- Article 3. 1°- Animals must not be subjected to bad treatments or to cruel acts. 2°- If it is necessary to kill an animal, it must be instantaneous, painless and cause no apprehension. 3°- A dead animal must be treated with decency.
- Article 4. 1°- Wild animals have the right to live and to reproduce in freedom in their own natural environment. 2°- The prolonged deprivation of the freedom of wild animals, hunting and

[50] *Source: French Animal Rights League - http://league-animal-rights.org/en-duda.html*

fishing practised as a pastime, as well as any use of wild animals for reasons that are not vital, are contrary to this fundamental right.

- Article 5. 1°- Any animal which is dependent on man has the right to proper sustenance and care. 2°- It must under no circumstances be abandoned or killed unjustifiably. 3°- All forms of breeding and uses of the animal must respect the physiology and behaviour specific to the species. 4°- Exhibitions, shows and films involving animals must also respect their dignity and must not include any violence whatsoever.
- Article 6. 1°- Experiments on animals entailing physical or psychological suffering violate the rights of animals. 2°-Replacement methods must be developed and systematically implemented.
- Article 7. Any act unnecessary involving the death of an animal, and any decision leading to such an act, constitute a crime against life.
- Article 8. 1°- Any act compromising the survival of a wild species and any decision leading to such an act are tantamount to genocide, that is to say, a crime against the species. 2°- The massacre of wild animals, and the pollution and destruction of biotopes are acts of genocide.
- Article 9. 1°- The specific legal status of animals and their rights must be recognised by law. 2°- The protection and safety of animals must be represented at the level of Governmental organizations.
- Article 10. Educational and schooling authorities must ensure that citizens learn from childhood to observe, understand and respect animals.

APPENDIX 3

Table 34. *Italian list of the words produced by the animal activists for the prompt word "animal"*

Words	Frequency
amore	15
amicizia	13
rispetto	9
essere-vivente	8
compagno	7
libertá	7
affetto	4
istinto	4
natura	4
sentimenti	4
vita	4
cane	3
dolcezza	3
dolore	3
fedeltá	3
impegno	3
responsabilitá	3
un-mio-simile	3
allegria	2
anima	2
bellezza	2
bontá	2
dignitá	2
gatto	2
indifesi	2
insteressante	2
protezione	2

sensibilitá	2
sfruttamento	2
sinceritá	2
soddisfazione	2
aiuto	1
altruismo	1
bambino	1
calore	1
casa	1
complice	1
conoscenza-reciproca	1
correttezza	1
cura	1
curiositá	1
dedicare-tempo	1
disperazione	1
documentari	1
equatore	1
evento-straordinario	1
familiare	1
frutto-della-scienza	1
impossibilitá-di-scegliere	1
inconscio	1
ingiustizia	1
innocenza	1
inquinamento	1
intelligenza	1
lavoro	1
nostro-convivente-su-questo-pianeta	1
organismo-complesso	1
passione	1
pazienza	1
pelo	1
piccolo	1
pietá	1
preoccupazione	1
purezza	1
rassegnazione	1

relax	1
sacrificio	1
sangue	1
selvaggi	1
sensazioni	1
senziente	1
serenitá	1
simpatia	1
soffice	1
solidarietá	1
specchio-aiuto-per-capire-no	1
spirito	1
spontaneitá	1
stadio-intermedio-dellevoluz	1
stella	1
tenerezza	1
titolare-di-diritti	1
unico	1
unione	1
uomo	1

APPENDIX 4

Table 35. *CA for the associations to the word "animal" by the animal welfare and activists: words of the clusters*

CLUSTER 1: ANIMAL AS COMPANION	**CLUSTER 2: ANIMAL AS SIMILAR BEING**	**CLUSTER 3: ANIMAL AS EXPLOITATION**
Affection	Cheerfulness	Soul
Friendship	Dignity	Beauty
Love	Sweetness	Helpless
Goodness	Pain	Interesting
Dog	Living being	Protection
Companion	Instinct	Exploitation
Loyalty	Respect	Life
Cat	Feelings	
Commitment	Sincerity	
Freedom	Similar-to-me	
Nature		
Responsibility		
Sensitiveness		
Satisfaction		

APPENDIX 5

Table 36. *Italian list of the words produced by the students for the prompt word "animal"*

Words	Frequency
cane	53
gatto	42
compagnia	15
affetto	12
fedele	11
pelo	11
natura	10
topo	10
amicizia	7
cavallo	7
dolce	7
gioco	7
gabbia	6
mammifero	6
selvaggio	6
tenerezza	6
coccole	5
cucciolo	5
domestico	5
essere-vivente	5
feroce	5
coda	4
istinto	4
libertá	4
morbido	4
piccolo	4
uccellino	4
uomo	4
zampa	4

cibo	3
criceto	3
curiositá	3
grande	3
paura	3
rispetto	3
scimmia	3
sporco	3
vita	3
zoo	3
amore	2
animalista	2
aquila	2
baffi	2
buono	2
canarino	2
canile	2
carne	2
casa	2
coniglio	2
cuccia	2
delfino	2
elefante	2
felicitá	2
impegno	2
indifeso	2
innocenza	2
koala	2
leone	2
lupo	2
maiale	2
mangiare	2
orso	2
primitivo	2
quadrupede	2
sesso	2
uccello	2
accarezzare	1
aggressivitá	1
aria	1
artigli	1

attenzione	1
autentico	1
bambini	1
bau	1
bello	1
berlusconi-silvio	1
bosco-foresta-deserto-mare	1
caldo	1
camaleonte	1
cammello	1
canguro	1
Capo	1
carlini	1
cerbiatta	1
coccodrillo	1
comprensione	1
convivenza	1
cortile	1
creatura	1
cure	1
dalmata	1
devono-essere-rispettati-e-amati	1
disturbo	1
emozioni	1
Erba	1
fattoria	1
Fauna	1
federico	1
femminile	1
Figo	1
Fobia	1
foresta	1
gallina	1
generoso	1
Giallo	1
giraffe	1
governo-italiano	1
guardia	1
indispensabile	1
insulto	1
intelligente	1

interessante	1
lasciateli-liberi-di-vivere	1
legami-personali-con-qualcuno	1
Lettiera	1
Lingua	1
maleducato	1
Mansueto	1
Maradona	1
Mucca	1
necessita-per-la-nostra-esistenza	1
Oca	1
Odio	1
Pace	1
Panda	1
Pantera	1
Parco	1
Pecora	1
Pele	1
persona-senza-scrupoli	1
Pesci	1
Peso	1
Pitone	1
proboscide	1
Ragno	1
Rana	1
responsabilita	1
Ricordi	1
riproduzione	1
Rodolfo	1
rompiscatole	1
Ronaldo	1
Savana	1
Scattante	1
Sensi	1
Serpente	1
sfruttamento	1
siberian-husky	1
Sincerita	1
sopravvivenza	1
Specie	1
Speranza	1

Stefano	1
Sudore	1
Tana	1
tempo-libero	1
tigre-albina-siberiana	1
ti-tira-su-quando-sei-triste	1
tranquillita	1
Trota	1
uguaglianza	1
Unici	1
Vecchi	1
Vegetale	1
Verde	1
Versi	1
Vipera	1
Zecca	1
Zidane	1

APPENDIX 6

Table 37. *CA for the associations to the word "animal" by the students: words of the clusters*

CLUSTER 1: ANIMAL AS PET	**CLUSTER 2: ANIMAL AS BOTH DOMESTIC AND ALIEN**	**CLUSTER 3: CONCRETE ANIMAL**
Companionship	Ferocious	Dog
Nature	Fear	Cat
Hair	Tenderness	Sweet
Loyal	Cud	Mouse
Wild	Domestic	Play
Affection	Food	Man
Soft	Little	Freedom
Friendship	Tail	Life
Leg	Mammal	Monkey
Living-being	Chick	Hamster

APPENDIX 7

Table 38. *Italian list of the words produced by the animal activists for the prompt word "genetically modified animal"*

Words	Frequency
contronatura	12
inutile	8
contraria	7
lucro	4
schifo	4
antiscientificitá	4
crudeltá	4
orrore	4
aberrazione	4
immorale	4
soldi	3
pericoloso	3
scienza	3
progresso	3
arroganza	3
utile	2
illusione	2
inevitabile	2
speculazione	2
violenza	2
pecore	2
non-rispetto-degli-animali	2
dolore	2
laboratorio	2
stupiditá	2
sofferenza	2
sfruttamento	2

ingiustizia	1
granoturco	1
imperdonabile	1
in-altre-condizioni-sociali	1
ignorante	1
indecisione	1
autodistruzione	1
atroce	1
chimera	1
alf	1
altri-fini	1
americani	1
ambiguo	1
coscienza	1
esperimento	1
e-comunque-senza-la-minima-s	1
é-un-insulto-allintelligenza	1
facilmente-manipolabile	1
disperazione	1
disequilibrio	1
ricerca	1
rabbia	1
sovrannaturali	1
rosso	1
problematico	1
poco-chiaro	1
pubblicitá	1
prodotto-dellessere-umano	1
uomo-bastardo	1
traumatico	1
vivisezione	1
spreco-di-risorse	1
sperimentazione	1
torturati	1
telegiornali	1
malattia	1
limbo	1
no-comment	1
mostri	1

ma-trattarli-dignitosamente	1
inumano	1
la-genetica-come-selezione-d	1
invasiva	1
per-salvaguardare-la-vita-um	1
peró-se-serve-per-aiutare-si	1
per-migliorare-la-loro-vita-	1
pietá	1
per-usi-cosmetici-per-pellicce	1
Pagliativo	1
non-biosostenibili	1
perdita-di-soldi	1

APPENDIX 8

Table 39. *CA for the associations to the word "genetically modified animal" by the activists: words of the clusters*

CLUSTER 1: AB AS NON-SCIENTIFIC	**CLUSTER 2: AB AS DISGUST**	**CLUSTER 3: AB AS INEVITABLE**	**CLUSTER 4: AB AS SCIENTIFIC PROGRESS**
Profit	Against-nature	unavoidable	Useful
Non-scientific	Cruelty	No-respect-for-animals	Progress
Aberration	Useless	Suffering	Science
Violence	Immoral	Venture	Sheep
	Against		Laboratory
	Disgust		Pain
	Loathing		
	Exploitation		
	Arrogance		
	Dangerous		

APPENDIX 9

Table 40. *Italian list of the words produced by the students for the prompt word "genetically modified animal"*

Words	Frequency
Dolly	17
Esperimenti	15
Scienza	14
Innaturale	13
Contronatura	11
Laboratorio	10
Orribile	9
inutile	8
ingiustizia	8
crudeltá	7
strano	7
pericoloso	7
utili	7
cattiveria	7
clonazione	7
futuro	6
ricerca	6
paura	6
pecora	6
denaro	6
sbagliato	5
brutto	5
sfruttamento	5
gabbia	5
non-rispetto	5
sofferenza	5
innovazioni	4

animali	4
insensibilitá	4
morte	4
disgusto	4
triste	4
assurdi	4
dna	4
maltrattamenti	3
alimenti-geneticamente-modif	3
progresso	3
violazione	3
no	3
odio	3
cavie	3
disumano	3
incrocio-tra-le-razze	3
soprusi	3
dolore	3
topi	3
curiosita	2
delitto	2
evoluzione	2
etica	2
addomesticare	2
egoismo	2
disprezzo	2
malattie	2
medicina	2
cani	2
compassione	2
miglioramento	2
non-conoscenza	2
falso	2
cure	2
genetica	2
mostruosita	2
punture	2
scimmia	2
rabbia	2

violenza	2
scoperta	2
voglia-di-sapere	2
declino	1
deformazione	1
tragedia	1
tortura	1
disperazione	1
dipende	1
disaccordo	1
costrizione	1
tu	1
trovare-piu-possibilita-di-l	1
creazione-di-essere-superior	1
deboli	1
criceti	1
errore-delluomo	1
stronzata	1
fastidio	1
spero-che-ce-ne-siano-pochi	1
tenerezza	1
diversita	1
distruzione	1
tempo-perso	1
eccesso	1
dominare	1
atrocitá	1
aquali	1
avidita	1
bombe	1
aggressivitá	1
aiutare-gli-uomini-dalle-mal	1
vita	1
commercio	1
convivere	1
uniti	1
uomo	1
vergogna	1
buon-senso	1

cacciare	1
capaci-di-amare	1
chernobil	1
non-si-puó-modificare-ció-ch	1
non-sani	1
non-so-se-ne-mangerei-la-carne	1
negativi	1
nervosismo	1
mutanti	1
mucca-pazza	1
non-necessari	1
scandaloso	1
piante	1
Per-loro-o-per-noi	1
poveretti	1
problemi	1
poco-affine	1
provette	1
organi	1
rna	1
onore	1
ok	1
pazzia	1
perché	1
radiazioni	1
ospedale	1
indignazione	1
infelicitá	1
inimmaginabili	1
inconsapevolezza	1
giudicati	1
giusto	1
impotenza	1
ignobile	1
grigio	1
mangimi	1
meschinita	1
morfina	1
insulsi	1

si-possono-trovare-altre-alt	1
senz-anima	1
io	1
ipocriti	1

APPENDIX 10

Table 41. *CA for the associations to the word "genetically modified animal" by the students: words of the clusters*

CLUSTER 1: AB AS CRUEL CLONING	**CLUSTER 2: AB AS UNNATURAL**	**CLUSTER 3: AB AS VIOLATION OF ANIMAL NATURE**
Dolly	Research	Useful
Experiments	Disgust	Cage
Cruelty	Dangerous	Hate
Exploitation	Unnatural	Sheep
Laboratory	Inhuman	Horrible
Cloning	Absurd	Nastiness
Genetically modified food	Injustice	Fear
Pain	DNA	Wrong
Against-nature	Progress	Violation
Useless	Abuse	No

APPENDIX 11

Interview and FG guide

How did you approach the group/the voluntary work?

What are the most important reasons behind your choice to get involved into the group/voluntary work?

Could you define an animal?

Media have reported about GMA, do you know the issue? what do you think about it?

APPENDIX 12

Transcription symbols

The following transcription symbols are in use in the text (Levinson, 1983):

[ ] Square brackets indicate additional information by the author

: Colons indicate that the speaker has stretched the preceding sound

( ) Empty parentheses indicate the presence of an unclear fragment on the tape

(omissis) Omissis in parentheses indicates that some words were omitted in the presentation of the results

APPENDIX 13

Legislative background

Relevant Italian laws (LIDA, 2003)

Ill-treatment	Law 22nd November 1993 n. 473 (G.U. n. 278, 26th November 1993) "New rules against animal ill-treatment"[51].	Article 727 of the Penal Code provides that everyone abandoning or ill-treating an animal can be punished with a penalty between 500 and 5000 euros. In this law, it is mentioned the necessity to take into consideration the animal ethological caractiristics when evaluating their well-being[52.]
Stray animals	Law 14th August 1991 n. 281 (G.U. n. 203, 30th August 1991)[53]	General law on domestic animals and prevention of wandering animals.

51 Legge 22 novembre 1993 n. 473 (G.U. n. 278 del 26 novembre 1993) "Nuove norme contro il maltrattamento degli animali"

52 Art.1. 1. L'art. 727 del codice penale è sostituito dal seguente: "Art. 727 Chiunque incrudelisce verso animali senza necessità o li sottopone a strazio o sevizie o a comportamenti e fatiche insopportabili per le loro caratteristiche, ovvero li adopera in giochi, spettacoli o lavori insostenibili per la loro natura, valutata secondo le loro caratteristiche anche etologiche, o li detiene in condizioni incompatibili con la loro natura o abbandona animali domestici o che abbiano acquisito abitudini della cattività è punito con l'ammenda da lire due milioni a lire dieci milioni.

53 Legge 14 agosto 1991 n. 281 (G.U. n. 203 del 30 agosto 1991)

Vivisection	Law by Decree 27th January 1992 n. 116 (S.O. n. 33 of the G.U. n. 40, 18th Febrary 1992)[54.]	Fulfillment of the Directive n. 86/609/CEE on the protection of animals used for scientific purposes.
	Law by Decree 30th June 1993 n.270 (G.U. n. 180, 1993)[55]	Reorganization of the zootechny and sprimental institutes, according to Art. 1, letter b), of the law n.421, 23rd October 1992.
	Law 12th October 1993 n.413 (G.U. n. 244, 16th October 1993)[56]	Law on conscientious objection to animal experimentation. This law recognises the researchers' right not to perform experiments on animals and the right to use alternative methods, in workplaces and Universities. Students as well as researchers can declare their opposition to violence on animals to the research director or course teacher, and nobody should be discriminated in workplaces because of that.

54 D. L. 27 gennaio 1992 n. 116 (S.O. n. 33 alla G.U. n. 40 del 18 febbraio 1992).
55 D. L. 30 giugno 1993 n. 270(G.U. n. 180 del 1993)
56 Legge 12 ottobre 1993 n. 413 (G.U. n. 244 del 16 ottobre 1993)

Emilia Romagna region: relevant laws (Animal rights office – Municipality of Modena, 2003)

Stray animals	**Regional law 7th April 2000, n.27** (B. U. n.61, 10th April 2000)[57]	New rules for the protection and controll of dog and cat population (it describes the rules for the identification of dogs and the dog registry office, it defines the maximum of 60 days of provisional care for stray dogs, it forbids the killing of stray animals and their use for experimentation, it supports the protection of cat colonies).
Vivisection	**Regional Law 1st August 2002, n.20** (B.U. n.112, 1st August 2002)[58]	Rules against vivisection (it forbids the breeging, the use and the sell of cats and dogs for experimentation, it forbids didactical experimentation).

57 Legge Regionale 7 aprile 2000, n.27 (Bollettino Ufficiale n.61 del 10 aprile 2000) recepisce la Legge 14 agosto 1991 n. 281 (G.U. n. 203 del 30 agosto 1991)

58 Legge Regionale 1 agosto 2002, n.20 (Bollettino Ufficiale n.112 del 1 agosto 2002)

Ordinances of the Municipality of Modena (Animal rights office – Municipality of Modena, 2003)

Ill-treatment	Co-ordinate text for the animal well being, n. 6250/98 of the 12th September 1998[59]	It protects the animal well being taking into consideration the etological wellbeing of the species, it forbids the sell and the free gift of animals in fairs, it forbids the begging with animals.
	Ordinance for the controlling of pigeons, n. 3188 of the 4th May 1999[60]	It forbids the feeding of pigeons and binds the owners of houses in the centre to prevent the pigeons nesting.
Wild and exotic animals	Ordinance for the use of wild and exotic animals in circus, n. P6143607 of the 22nd October 2001[61]	It forbids the use of animals in circus in the Municipality of Modena, by allowing the entry only to those circus respecting very high standards of animal husbandry.

59 Testo coordinato: ordinanza benessere animale prot.n. 6250/98 del 12/9/98
60 Ordinanza per il contenimento dei colombi prot.n. 3188 del 4/5/99.
61 Ordinanza sull'utilizzo di animali appartenenti a specie selvatiche ed esotiche in spettacoli e altri intrattenimenti prot. P6143607 del 22/10/2201.

APPENDIX 14

CODEBOOK: Interview material

a) Involvement into the movement and definition of animal

(1) Love for animals .....16 (N=106)

(1 1) To protect animals .....14 (N=106)

(1 1 1) Animals = victims.....3 (N=106)

(1 2) Love exchange.....9 (N=106)

(1 2 1) Animals = source of well-being.....3 (N=106)

(1 2 2) Animal = person (search text) .....7 (N=106)

b) GMA

(1) I don't know 6 (N=79)

(1 1) Not interested since painful .....3 (N=79)

(2) Disgust .....2 (N=79)

(2 1) Metaphor = vivisection .....3 (N=79)

(2 2) Useful .....3 (N=79)

(2 2 1) Animal welfare .....2 (N=79)

(2 2 2) Progress .....5 (N=79)

(2 3) Useless.....3 (N=79)

(2 3 1) Dangerous .....1 (N=79)

(2 4) Manipulation of nature .....1 (N=79)

(2 5) Therapeutic fury .....3 (N=79)

(2 6) Aberration .....1 (N=79)

APPENDIX 15

CODEBOOK: Focus group material

a) Involvement into the movement
(1) LAV
(1 1) Acquaintances ..... 2 (N=253)
(1 2) Vegetarianism ..... 6 (N=253)
(1 2 1) Respect for animals ..... 4 (N=253)
(1 3) Environmentalism ..... 2 (N=253)
(1 4) Love for animals ..... 3 (N=253)
(2) CSA-ENPA
(2 1) Love for animals ..... 14 (N=253)
(2 1 1) Dogs & cats ..... 5 (N=253)
(2 2) Acquaintances ..... 11 (N=253)

b) Voluntary work
(1) Criticism ..... 3 (N=253)
(1 1) Drop-by-drop ..... 3 (N=253)
(1 2) Sensitivity ..... 5 (N=253)
(2) Frustration ..... 12 (N=253)
(2 1) Mean humans ..... 5 (N=253)
(3) To work hard ..... 6 (N=253)
(3 1) Love for animals ..... 7 (N=253)
(3 2) To improve living conditions ..... 2 (N=253)
(3 3) Animal rights ..... 2 (N=253)

c) Definition of animal
(1) Animal = weak
(1 1) Exploitation/ill-treatment ..... 11 (N=253)
(1 2) Unprotected ..... 3 (N=253)
(2) Animal = living being ..... 6 (N=253)

(2 1) Metaphor = person ..... 6 (N=253)
(2 2) Ideal animal ..... 3 (N=253)
(2 2 1) Less dangerous for the environment ..... 2 (N=253)
(2 3) Rights ..... 2 (N=253)
(3) Animal = commitment ..... 4 (N=253)

d) GMA
Utilitarian reasoning
(1) Useful ..... 3 (N = 210)
(1 1) Medical research ..... 7 (N = 210)
(1 2) GMA = natural selection ..... 4 (N = 210)
(1 2 1) for animals ..... 5 (N = 210)
(1 2 2) for humans ..... 4 (N = 210)
(2) Useless ..... 8 (N = 210)
(2 1) Dangerous ..... 4 (N = 210)
(2 2) GMA = vivisection ..... 4 (N = 210)

Moral reasoning
(3) Disgust ..... 4 (N = 210)
(3 1) Against-nature ..... 5 (N = 210)
(3 2) Sick society ..... 8 (N = 210)
(3 2 1) To change society ..... 4 (N = 210)
(3 2 1 1) Organ donation ..... 2 (N = 210)
(3 2 2 1) Human cloning ..... 2 (N = 210)
(3 2 2) Therapeutic fury ..... 5 (N = 210)
(3 3) Ethically wrong ..... 4 (N = 210)
(3 3 1) Low respect for animals ..... 3 (N = 210)

APPENDIX 16

Italian version of the instrument for the collection of free-association

QUESTIONARIO

Di seguito trovi alcune semplici parole che riguardano la relazione tra esseri umani e animali. Ti chiedo per ciascuna parola di scrivere le prime 5 parole che ti vengono in mente. Non ci sono risposte giuste o sbagliate. Ci interessa esplorare quali sono le prime impressioni delle persone per ciascuna delle parole presentate.

La prima parola è: ANIMALE

1) _____
2) _____
3) _____
4) _____
5) _____

La seconda parola è: ANIMALI GENETICAMENTE MODIFICATI

1) _ _____
2) _ _____
3) _ _____
4) _ _____
5) _ _____

Ti chiedo adesso alcuni dati socio-demografici, che saranno utilizzati in forma aggregata per disegnare il profilo dei partecipanti alla ricerca.

Per favore, barra il quadratino di interesse.

1. Genere: □ Maschio
   □ Femmina

2. Età: _____

3. Titolo di studio: □ licenza elementare
   □ licenza di scuola media inferiore
   □ diploma di scuola media superiore
   □ diploma di laurea triennale
   □ diploma di laurea quinquennale specialistica

4. Professione: □ studente/ssa
   □ lavoratore/trice dipendente
   □ libero professionista
   □ pensionato/a
   □ disoccupato/a
   □ altro (co.co.co; lavoro interinale etc.)_____

4. Hai uno o più animali a casa tua? □ Si
   □ No

Se si, puoi indicare quanti e di che specie (per esempio: un cane, un pesce rosso ecc.)?_____

5. Quando eri bambino/a, avevate degli animali in casa?
   □ Si
   □ No

Se si, puoi indicare quanti e di che specie (per esempio: un cane, un pesce rosso ecc.)?_____

6. Ti definiresti una persona:
□ credente
□ credente, non praticante
□ non credente
□ altro _____

7. Sei iscritto a qualche associazione per la protezione degli animali o animalista?
□ Si
□ No

Se si, quale/i? _____

8. Sei vegetariano/a?
□ Si
□ No
□Altro _____

APPENDIX 17

English version of the instrument for the collection of free-association

QUESTIONNAIRE

Please, find in what follows some simple words concerning the humans-animals relationship. For each word, please write down the first 5 words that come to your mind. There are no right or wrong answers. We are interested in the investigation of individuals' impressions about every given word.

The first word is: ANIMAL

1) _____
2) _____
3) _____
4) _____
5) _____

The second word is: GENETICALLY MODIFIED ANIMALS

1) _ _____
2) _ _____
3) _ _____
4) _ _____
5) _ _____

Please, report now some socio-demographic data, that will be used only to outline the participants to the research.
Please, select one option.

1. Gender : □ Male
□ Female

2. Age : _____

3. Education : □ primary school
□ secondary school (I)
□ secondary school (II)
□ degree
□ master (5 years)

4. Job: □ student
□ employee
□ self-employee
□ pensioner
□ unemployee
□ other (co.co.co etc.)_____

5. Do you have one or more animals at home?
□ Yes
□ No
If yes, could you please say how many and which kind (for instance: one dog, one fish)? _____

6. When you were a child, have you had any animals at home? Quando eri bambino/a, avevate degli animali in casa?
□ Yes
□ No
If yes, could you please say how many and which kind (for instance: one dog, one fish)? _____

7. You would define yourself:
□ a religious believer
□ a believer, but no churchgoer
□ non believer
□ other _____

8. Are you member of any association for the protection or for the rights of animals?

□ Yes
□ No

If yes, which one? _____

9. Are you vegetarian?

□ Yes
□ No
□ other _____