

Ethical decision and scientific scepticism

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ABSTRACT. *Ethical decision and scientific scepticism.*- Decisions concerning welfare have more chances to be correct if based on scientific evidence. However such data seldom lead to clear-cut decisions. Data must be interpreted and the final decision will essentially be ethical. That process is influenced by personal and cultural factors such as ideology. Various social groups also influence decisions through lobbying. The actual crisis in values results sometimes in a distrust in science, although the very notion of animal welfare may be linked to the development of the 19th century ideology of science and progress.

KEY WORDS. Applied ethology, Animal welfare, Ethics, Ideology

Introduction

It is a widespread idea that, as a rule of thumb, the more Southbound one goes in Europe the less people care about animals. Like most social stereotypes, that statement must be relativated as many Mediterranean people do respect animal life. However, Spain has a bad reputation concerning welfare indeed: cruel practices still exist in some village feasts and the most obvious case of concern is evidently bullfighting. Therefore one has to give credit to the organisers of this conference for providing a special plenary session on welfare.

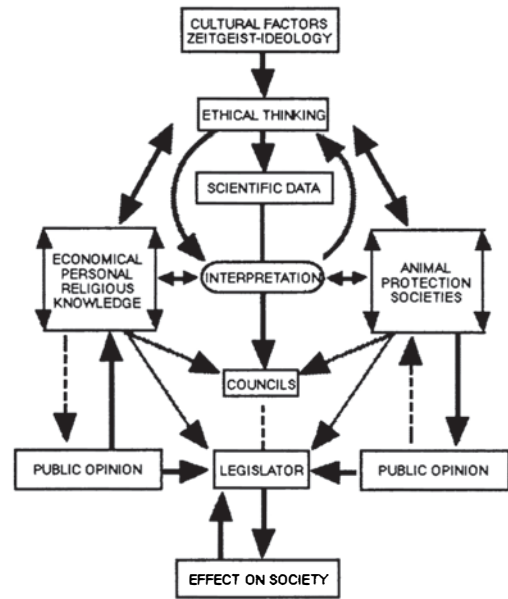
The usual function of a plenary session paper is to present the state of the art of a given problem, especially to summarize critically actual knowledge, to review the key questions and to suggest

challenging research paths for the future. I am afraid I will not present you with any ready made answers concerning animal welfare. On the contrary, I will entice the audience to ask itself more questions than I will be able to give answers. Although animal welfare is a subject which is being dealt with within ethology since decades, interest is nowadays increasing up to a point that it becomes even a fashion; it is "in". The fact something is fashionable does not warrant quality. Furthermore, it is my impression that ideas on welfare are often put forward without insight of broader structures which determine their origin and existence. Although I am not a philosopher, I am going to take up that role during the main part of my talk. I do not mean philosophy in the negative sense of the word, i.e. talking uselessly about things which cannot be controlled anyway (in German: "Ins Blaue hinein"),

but in the noble sense, i.e. sitting back, taking some distance, and wondering about what we are doing, why, what for? I beg philosophers to be clement in case they detect errors in this modest endeavour and I would be grateful to receive their comments.

The core of my paper deals with the following problem. On the one hand, several people - such as politicians, judges, members of ethical committees - often have to take a clear-cut decision, yes or no. That practice, husbandry system, etc., is allowed or not. Scientist on the other hand, aware of the complexity of a problem, can often only take a probabilistic stand and say "maybe", or "there are x percent chances in that situation, with those factors present". Such conflicts are not particular to welfare. In court, psychiatric experts come and tell e.g. that there are chances that the accused person was accountable for his deeds at the moment of the crime. The judge however cannot decide that he is guilty for only 60 %. Punishment can be modulated according to circumstances, but guilt exists or not. However, both scientific thinking and ethical decisions are influenced by many cultural factors.

The figure represents the skeleton or structure of this paper. Let us start from scientific research. Science does not happen loose from the society in which it takes place. Research priorities are determined by several values present in that society and culture. Furthermore scientific results must be interpreted and that process is also culturally influenced by current ethical standards. Ethical thinking is strongly influenced by the ideology which is structuring a given culture in space and time. Values are not always universal neither are they permanently present in the same society. There is a "Zeitgeist" which determines very strongly human attitudes, often unconsciously. Ideally speaking, scientific results should feed-back on ethics and help people in their ethical thinking (and even in their philosophical and religious quests). After interpretation of scientific data, someone has to use them in order to take decisions, and those



persons belong usually to the political world. They decide upon the laws. Eventually, the information on which they base their decisions can in some countries be channelled through advisory bodies such as animal welfare councils or specialized teams belonging to ministries. Ideally, the effect of laws on society should be evaluated and fed back to the legislator.

The described process is not linear; interactions exist with other relevant bodies or groups in society who are trying to influence it, and are lobbying advisory bodies, civil servants and politicians, directly or through public opinion. Control of the media is important in relation with the latter.

On the one hand, there are all the sectors or individuals having an interest in a given subject. Here one will find different attitudes, ranging from what I would call the "conservationists" who are extremely reluctant to consider even the slightest change, to the open minded ones who are ready to examine the value of any argument.

That interest can be

-economical: e.g. the pig production industry

will be anxious about having to introduce substantial changes in management systems and fear distortions in competitiveness;

-personal: here one deals with the many different hobbies people enjoy with animals which include breeding, sport or just company;

-religious: e.g. religions requiring ritual slaughter by e.g. cutting the throat will throw a particularly critical eye on measurements concerning latency of loss of consciousness;

-knowledge: animals are used in order to gather knowledge (usually scientific) about themselves or other phenomena.

Unfortunately the media do not often differentiate between e.g. routine safety tests and what is being tested (a potential medically valuable molecule or a cosmetic), routine screening batteries examining new molecules, fundamental research and experimental surgery. The tendency to deem one's own research as very important can now be relativated through the ethical committees.

These groups tend to remain discrete. When influence on public opinion exists it rather happens through presenting only the positive aspects of their activities and keeping silent about problematic ones. E.g. having succeeded in producing the best beef breed (while not mentioning most calves must be born by cesarean); having bred champion dogs (while silencing illnesses inherent to the breeds), etc. Whenever unjustified treatment of animals is being -rightly- critised, such groups are rather embarrassed when brought into the spotlights.

They influence rather directly the decision makers instead of through public opinion.

On the other hand, animal protection societies are also endeavouring to influence the process. Amongst those, one finds a gradation of different attitudes, ranging from dogmatic extremism (usually associated with the use of physical or verbal violence, emotional antropomorphism and manipulation of the media) to rational free examination of data (usually associated with a tendency towards persuasion through dialogue,

cooperation and information). Control of animal protection societies by the public or other bodies is usually scant.

Few people are able to evaluate whether they are informing the public correctly, are running themselves their animal homes well and are carrying out a honest financial management.

Furthermore, the general public tends to consider animal protection societies a priori as the "goodies" who cannot do anything wrong. However, some countries are considering licencing animal protection societies. Just as in the humanitarian aid sector, serious organizations are welcoming such a screening of their activities.

Scientific data and ethical values

Data have to be interpreted. Some years ago a colleague of mine suggested in a discussion that the day will come development of science will enable us to evaluate objectively the welfare status of an animal. I am rather sceptical. It is important indeed to rely as much as possible on scientifically correct data (we will later see why). But scientific data have to be interpreted. That evaluation is carried out using a system of values and these values can differ from person to person and from culture to culture. Therefore I think the final decision will always be an ethical one.

Two persons can both honestly agree on the principle that animal suffering should be avoided. However, one can decide that a given level of cortisol in a given species is unacceptable while the other sees no reason to worry. However, most of the time, particular interests will influence and eventually blur judgement. As mentioned earlier, they can be economical (e.g. tethering sows, batteries, veal calves), scientific (hence the importance of ethical commissions), religious (why change a century-old ritual?) or induced by passion for a given art or tradition (e.g. bullfighting), a

sport (e.g. mushing, various horse riding activities), a way of hunting, or simply love for a particular pet. People can also be very exclusive and egocentric in their values: "I love my doggie and overfeed him well in my little flat, while what you do with your animal is unacceptable".

Some examples of how judgement can vary. As president of the Animal Welfare Council at the Belgian Ministry of Agriculture I am sometimes lobbied by various groups. Some years ago the problem of fur animals started to become a subject of public discussion. Anti-fur people rang me up and a delegation of fur traders visited me. Both cited the same scientific work: the former in order to illustrate how cruel mink farming is, the latter to demonstrate that there are no problems. One must often insist that scientific data tell this or that, and no more. The rest is interpretation.

When religious ritual slaughter was discussed, data about the duration of evoked potentials after cutting the throat were examined. In cattle, potentials can be found in some individuals until more than two minutes after the cut (Daly et al., 1988). The problem is that the absence of potentials demonstrates inconscience, while their presence can occur as well in a conscious as in an unconscious state. Somebody without emotional link with that ritual can easily decide that one should give the animal the benefit of the doubt and that it should be stunned before the cut with e.g. the concussion stunner. Representants of one given religion could not consider the data sufficiently convincing in order to adapt their tradition. Some members of another religion have already accepted preliminary stunning.

Last year I published an article on bullfighting and welfare (Ödberg, 1992) in which I made an appreciation of the artistic aspects while suggesting particular adaptations in order to suppress suffering. The General Council of Spanish Veterinarians reacted by sending comments to the Federation of Veterinarians of the E.C. explaining why they think nothing should change. I found few scientific arguments but a lot of sentimental and social

reasons. It was e.g. stated that a brave bull selected for aggressivity does not feel pain, while an animal from another breed does. Even taking the possible temporary role of endogenous opioids into account, it is a statement which is rather dangerous to put down on paper bluntly without evidence. I am glad to say that Spanish colleagues have started recently scientific studies on the subject and it is worthwhile examining the first results which they present at this conference.

To speak as a scientist or as an ethical being

One should also be as clearly as possibly conscious about what one can say as a scientist and what as an ethical being. One should endeavour not to make science say things your feelings would like to see coming true. Of course, the latter can motivate you to do research on the subject, but one should try to remain as lucid as possible when analysing the data.

Some months ago scientists from different background met in a workshop in order to discuss the housing of laboratory animals. Experienced ethologists were not the majority and the classical unscientific statement issued in the Brambell Report (1965) was expressed once again: i.e. that animals will suffer if they are not able to perform all the behaviours belonging to their ethogram. Common sense alone will make one wonder whether welfare is decreased if the animal cannot e.g. experience hierarchical aggression or flee for a predator. For other behaviours it is often not easy to answer. Welfare research spends a great deal of time trying to answer such questions using indications such as the presence of pathological behaviours, by measuring motivational strength or by using physiological correlates (e.g. Manser, 1992). I am not ready to sign a declaration as scientist that the welfare of a given strain of rats is affected if e.g. the animal cannot climb, as long as such studies have not been

performed. However, as an ethical being who would like to give the benefit of the doubt to the rats, I would prefer to see such animals being kept in a cage where they can climb and perform various behaviours.

Of course, the advice of scientists cannot always rely only on direct experimental data. Generalization can be helpful in many cases. E.g. experimental work has demonstrated that chronic stress induces polydipsia in individuals of species A. Let us imagine that individuals of species B show the same behaviour in situations which are suspected to be stressful. One has many chances to be right if one considers that the welfare of B is indeed affected. Such a statement is based upon scientific data, but not on an experimental demonstration. There is strictly speaking no scientific proof. However, the above statement could only be made if polydipsia was present in species B. One can say as a scientist that there are many chances that species B will have undergone stress because of the inadequate environment. If no parameters are available, it is in my opinion not ethical to make a statement and give it a scientific status. If one makes a statement, it should then be considered as the expression of any person capable of ethical thinking.

Some people might say it is dangerous to be so strict, as "conservative" groups will then always require an experimental scientific demonstration in order to slow down or inhibit all possible improvements of welfare. I do not think "efficiency first" - and surely at any price - is a good argument. If one prostitutes science, it will lose sooner or later all credibility, maybe at a moment when it will be the most needed. As I mentioned already, the final decision will always be the result of a balance between what science can tell and the ethical reasoning of people of a given society. The permanent impossibility to take a decision "because absolute scientific data should be available" is the symptom of a society which may be technologically advanced, but who lacks courage and consistency at the moral level.

Do we need science?

When the answer is "no" or when people decide in advance how truth should look like

Extreme animal liberation people will answer categorically "no", arguing that to investigate is already being "part of the system". It is the system as such which should be brought down and all animal use should be banned, whether for food, clothing, knowledge or company.

Some people do not reject science, but select data that support a pre-established conclusion while silencing data that do not. One should be ready to examine all data in order to approach truth as close as possible.

Any standpoint is respectable provided it is the result of a free examination of facts. Each person has also the right to communicate his views provided he does so in a non-aggressive way and both parties should be ready to examine each others arguments. Unfortunately, it happens all too often that people who advocate rather extreme ideas about animal welfare are bashing with aggressive slogans. Aggression induces counter-aggression and this evolves into a sterile opposition and unfortunately into a more global rejection of all animal welfare endeavours in part of the public who tends to generalize. It also results in a polarization of attitudes instead of reaching a consensus. I am not arguing that public campaigns should never be led. Unfortunately, it is sometimes the only way of getting attention for a problem; but I think one should always first try to convince the people involved to carry out the changes themselves. This is of course subjected to the condition that the problem has been analysed well. It happens, mainly on local level, that complaints are unjustified. One of the criticisms one can make is that some people know very little about the animals they pretend to protect. When in addition such persons approach the owner or caretaker of the animal(s) in an aggressive or haughty way, they not only discredit themselves,

but unfortunately sometimes induce negative reactions against the whole animal protection world.

It is also unfortunate that some welfare activists are reluctant to use dialogue as a first step as it does not attract the attention of the media.

However, it should be added that people will refuse to examine arguments in favour of animal welfare because these sometimes question basic established views in a given society. Organisms (including man) tend to increase the level of certainty. Lack of predictability and control are the main causal factors of stress. Living with stable values is reassuring (also philosophically and religiously). The questioning of established values, even in a non-aggressive way, can elicit negative reactions. Hence one could advocate that the more a challenging idea can be supported by scientific data, the more chances it has to be examined and eventually accepted.

One should also be aware that provocative initiatives about fundamental values concerning animal life could be exploited strategically in order to destabilize given societies. It is an old technique which consists of infiltrating any section of society where problems exist, can be inflated or created. Extreme animal rights arguments will not bring down a social system, but they add to several crevices in the wall. Having said this, such misuse of animal welfare is no reason whatsoever to dismiss scientifically and ethically soundly based arguments in order to improve the fate of animals.

Up to now I have dealt with one type of person which affects negatively the world of animal protection: the aggressive one. Some people seem to use that world indeed as an outlet for their aggressivity just as others end up in some political or religious extremist groups.

Another type concerns people having problems with their self-image: those who want to perceive themselves as having very high ethical standards. They always want to be "better" than their fellow men. I suspect such persons are to some extent responsible for divisions, quarrels and childish

competitions between groups within the animal protection world in some countries. Such people think they love animals better than the others do. They consider themselves to be "real" protectors and sneer at other organizations. Sometimes they refuse to support improvements because they want to get more. E.g. by refusing to participate in ethical committees because they want a complete abolition of the use of animals for research.

I have been criticised by people who want a total ban of bullfighting because I think one has more chances to save bulls by lobbying for a bloodless corrida without suppressing it.

Scientific evaluation of welfare is important in the interest of the animal

Due to public opinion, there is quite a bit of political pressure in some European countries to improve on the European convention on the protection of laboratory animals. Politicians want to decide quickly, but they need the endorsement of "experts". One advocates now what ethologists have suggested since long: determine first what the animal needs inside the cage before determining its size. Environmental "enrichment" is the fashionable subject. It can be classified into elements which structure the cage (e.g. partitions, tubes, platforms, bottles), objects which can be carried, manipulated and transformed e.g. for nest-building or hoarding (straw, paper, wood, food) and variation in the food as such or making the animal work to obtain it. At first sight, all this seems to represent good ideas which could improve the animal's welfare. Some authors have published empirical reports, trying out innovations and stating whether "it worked" or not (e.g. Scharmann, 1991). However, amongst those authors which did carry out a scientific evaluation of structuring the cage volume, some reported welfare improvements (e.g. Chamove, 1989), while others found that in some rodent strains welfare is decreased through an increase of aggression due to a less clear

dominance hierarchy (Haemisch, pers.comm.). Hence one should be careful not to play the apprentice sorcerer: enrichments should be evaluated as accurately as possible in the interest of the animals.

Another classical example, according to the laying hens specialists, is the increase of cannibalism in many alternative systems. Many animal protection people are lobbying in favour of the immediate suppression of batteries. If there are sufficient indications that welfare is affected in batteries and that they should be banned, the immediate introduction of 3-D tiered systems on a big commercial scale seems to imply a substantial welfare risk because of, amongst others, increased cannibalism. Maybe the get-away cages will present a good solution, but a serious evaluation is necessary. Whether enough money and energy are invested in such research is another problem. When one considers that the actual battery cages are the result of thirty years of development, it is time the industry should shoulder more responsibility and take its future in its own hands.

The need for scientific data in order to take ethical decisions

One should first of all realize that changes resulting in substantial financial investments have few chances to be undertaken without scientific facts supporting them. Pragmatically speaking, ethically desirable aims often need the support of science.

Secondly, one should also remember that most arguments in favor of the welfare of animals rest on the development of fundamental biological sciences. These sciences have used animals in order to discover differences and similitudes between species, including man. Besides specific welfare research, one should indeed not forget the field of fundamental comparative neuropsychology, physiology and ethology. Could an ethicist say something meaningful without such informations? I am

enclined to answer "no". One needs facts to base one's decision upon. The problem is to obtain data precise enough to minimise the chances of taking the wrong decision. If one does not, one remains on the dogmatic level of absolute principles: all animal life can or should never be taken or used. In that case, reflexions can only deal with the logical consequences of such positions.

I rather see a more important role for ethicists than the one of deciding and giving answers. They should act as warning signals and induce people to think and not to accept given situations without any critical sense. They should learn people, first, how to examine problems, and secondly, to keep asking questions and never rely forever on former conclusions. Habituation can be biologically useful maybe, but represents an ethical danger. Ethicists should keep a little light alive in our minds so that we keep asking ourselves questions.

Ideology in the 19th and 20th century

Attitudes towards science: a dialectic development

The end of this century is witnessing a crisis of values. Man cannot live and structure his societies without ideologies and myths. I am using the term here not in the sense of "something that does not exist", but in the sense of a simplified image, elaborated by a human group, which plays an important role in determining values and behaviour (Servier, 1982). That image can be a concept (e.g. eternal life, industrial growth, progress), or a story (e.g. the origin of the world, the foundation of a given society by the ur-father, the glorious proletarian revolution). Mankind should be wise enough to chose the adequate ideology. Unfortunately, the development of an ideology is rather an unconscious process.

Periods of stable values tend to alternate with moments of transitions. Values are not questioned and no choice is available in periods of stability. Individuals reacting against the reigning values experience a lot of social pressure and are eventually eliminated physically (many critics and founders of new religions and philosophies have met a very unhappy end). During centuries empirical knowledge, magic and religious beliefs dominated. When after the Aufklärung modern science developed and led to a technological society, the result was not the initiation of an epoch of true scientific thinking in most aspects of life and the apprenticeship of systematic doubt, but on the contrary of a new belief, but this time a belief in the supreme power of science: some day, all causal relations will be discovered and put into linear deterministic laws and man will be omnipotent. Temples in honour of science have been erected in the 19th century as a result of Comte's positivistic philosophy.

However, dialectic development made the pendulum swing away from the scientific ideology.

Physicists themselves discovered that uncertainty must be integrated into our vision of the universe. Self-organisation processes (the "dissipative structures") away from states of equilibrium became important to understand life and irreversible phenomena such as the unidirectionality of time had to be reckoned with (e.g. Prigogine & Stengers, 1988). Scholars of deterministic chaos are endeavouring to put uncertainty into equations (Haken & Wunderlin, 1990).

Furthermore, misuses of science and technology by the still paleocephalic man (remember McLean's tri-une brain) in the 20th century which led to world-wide horrors induced many people not to trust "the scientists" any more.

This results nowadays in people not recognizing any more the positive advancements of science and the desire to "go back" to the days before knowledge had corrupted mankind, which recalls the illusion of "le bon sauvage" of Rousseau.

It would not be surprising if existential problems

would be for a great deal responsible for the actual level of anxiety in many people. Seeking sensation, the media are encouraging more emotional reactions than careful thinking, offering temporary anxiolytic escapes. Magic, parapsychology, horoscopes and hasty interpretations of facts are presented at an equal level of importance as accurate scientific information.

If science has contributed in weakening the old myths, it has not suppressed the need for reassurance, predictability and control. As many people have no philosophical culture, they cannot resist the appeal of many forms of irrationality.

Animal welfare is no exception and has also been affected by irrationality and the rejection of science: Why bother investigate welfare problems? If you do so it shows you are integrated "in the system" instead of refusing it. As stated before, the interpretation of data is seldom straightforward.

A scientist is not trustworthy anyway and it is difficult to imagine his research can be motivated by his feelings and ethical values towards animals.

Public debates about welfare are often dominated by irrationality, passion and erroneous information if not by disinformation on both sides.

Science in general is more relativistic than before while life sciences have increased our knowledge about organisms. It is understandable that people without scientific background find it difficult to cope with the increased possibilities of e.g. genetic manipulation (which simultaneously creates responsibility). The awe for increased power associated with less certitude may explain why some people flee into more simple extreme viewpoints: e.g. either exclusive pragmatism ignoring all concern for animal life, either the radical equality of the value of lives of all species.

Welfare in the 19th century and the notion of progress

It is remarkable that, if concern about the welfare

of animals apparently did not originate during the last century, it seems to have developed strongly during that period. I do not deal with the question whether animals have a "mind" or a "soul". Ideas have changed concerning the "mind" of animals during history. Neither am I dealing with man's view of the respective roles of the animal and man in nature's equilibrium. E.g. African hunters (from a tribe whose name I forgot) beg pardon for taking a life. However, it does not express a concern about individual suffering but the awareness of taking an element out of a sacred entity. I am dealing with the concern about suffering. If the initial statement is true, one can wonder to what extent there is a relation with the ideology of that period of industrial and scientific development. Two relevant values seem to have developed during that period: the notion of "progress" and the importance of time.

In static societies, a "change" is eventually possible but within a given range and often implies cyclic returns to the same situation. Everybody tends to remain in his established role or fate. "Progress" is an unknown concept as it implies a unidirectionality in the changes. With the notion of progress, changing things becomes possible through the imagination of situations closer to a given ideal value and the awareness of the possibility of getting there. Things can get "better". Several ideas and theories, such as Darwin's theory of evolution, or socialism, would probably not have seen the light without that notion (Bowler, 1989). Progress became a myth: who would dare to say he is against progress? Developmental scales were established even there were no linear evolution can be traced (e.g. "primitive" and "civilized" cultures). Maybe the realization that the fate of animals can also be improved through action lies at the origin of the creation of organized animal protection societies during the 19th century? The development of vivisection (in the real sense) could also have influenced (see e.g. Contrepois, 1993), but it cannot explain the concern for animals in many different situations. On the other hand, comparative

physiology itself disclosed similitudes between species and this could also have increased people's awareness of animal suffering.

Science and a new unifying vision

The old securing myths have lost credibility but no new well-structured system of values has taken their place. Traditional religions lose members while retaining extreme fundamentalists; the fall of communism has left an ideological no-man's land. Science, and especially life sciences, should play an important role here. They should not be merely the motor of technical development but act as important structural elements in the genesis of the new myths and ideologies which will determine our future vision of the world and hence our behaviour. Unfortunately, up to now few scientists with an interdisciplinary and synthetic mind presented comprehensive views from the origin of unicellular life up to the level of societies and linked them with the classical existential questions of man (e.g. Laborit, 1968, 1976, 1986). Some trials were reassuringly deterministic, such as Teilhard de Chardin's vision. The next ideology should ideally speaking be probabilistic and teach man to live with questions. Thieme (1980) expresses this as the "victory of common sense". By the way, the most dangerous people in life are usually those who are absolutely sure. When you know you may be wrong, you are less likely to do something nasty.

The actual average citizen has a poor idea about the situation of his own species amongst life forms and even less about life in general in the universe. It is very important that life sciences do influence a future unitary vision in order that all forms of life do get integrated into the system. This will determine the consideration we will show or not, not only towards fellow humans but also towards non-human life and the whole equilibrium with the environment, which soon will not be limited to

earth but also to a wider part of the solar system (e.g. the problem of spatial rubbish).

Resumen

Decisión ética y escepticismo científico.

Las decisiones con respecto al bienestar tienen más posibilidades de ser corregidas si se basan en evidencias científicas. Sin embargo, tales datos rara vez llevan a decisiones bien definidas. Los datos deben ser interpretados y la decisión final será esencialmente ética. Este proceso está influenciado por factores personales y culturales tales como la ideología. Varios grupos sociales influyen también las decisiones a través de los cabildos. La actual crisis de valores resulta algunas veces en una desconfianza sobre la ciencia, aunque la noción de bienestar animal puede ser unida al desarrollo ideológico de la ciencia y del progreso del siglo 19.

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