should build upon it. We as a community of natural resource managers and conservationists must embrace the big picture, no matter how fuzzy and uncertain, before we lose it.

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In the name of conservation

I am grateful to Sidney Holt for introducing me to readers of *Oryx*, even though his introduction was clearly not intended to flatter. According to his article on the Wise Use Movement, entitled 'The (Dis)information Age: a reply' (*Oryx*, **29,** 222–223), I am one of those Wise Use saboteurs who work to 'oppose conservation, but always in the name of conservation'. 'The name of the game,' Holt says, 'is systematic "disinformation" – a strategy developed in the bad old days by the KGB'. At first sight, I may appear to fit the part of a mole perfectly: I am a self-proclaimed conservationist, member of the Norwegian conservation association Norges Naturvernforbund yet I am an employee of the High North Alliance, an organization defending the killing of whales and seals.

On taking a closer look, it may become apparent that what Holt calls disinformation is, in fact, disagreement; and that Holt and I have divergent conceptions of what conservation really is. Therefore, I appreciate this opportunity of presenting my views on this important concept within environmentalism, a concept that, in my view, is all too often abused and misunderstood.

To me, and to the great majority of organized Norwegian conservationists, it is quite natural to defend the sustainable use of renewable resources in the name of conservation, irrespective of whether it applies to lichens, trees, blueberries, kangaroos, cod, moose, seals or whales. We feel certain that this in in harmony with internationally agreed principles based on, among other things, the Brundtland Commission, Agenda 21 and the strategy document, *Caring for the Earth* (IUCN *et al.*, 1991) Here, conservation is defined as, 'The management of human use of organisms or ecosystems to ensure that such use is sustainable.' Sustainable use is defined as: 'Use of an ecosystem or other renewable resource at a rate within its capacity for renewal.' The same document asserts that 'we have the right to the benefits of nature but these will not be available unless we care for the systems that provide them.'

Unfortunately, Holt does not initiate *Oryx* readers into his own definition of conservation, despite the fact that he accuses others of misusing the term. However, on the basis of an essay (Holt, 1992), it would appear that he confuses three different concepts – conservation, animal welfare and animal rights – and ends up with a vague and self-contradictory definition of conservation. He expresses enthusiasm at the prospect of animal rights being integrated into international law. Animal rights is a clearly defined concept with origins in philosophy. It is based on the idea that animals have 'inherent value' as 'the experiencing subject of a life' and that all who have inherent value, have it equally – whether they be 'human animals' or not (Regan and Singer, 1989). Against this backdrop, there can

in principle be no difference between the ethics that apply to relationships between humans and between humans and other animals.

In the concluding lamentation of his essay, Holt says that 'environmentalists as well as scientists have been afraid to admit having emotions or sentiments' and that there has been 'too much diversion of activity towards the idea of maintaining the simple diversity in the living system of the planet.' He terms this tendency towards a one-sided focus on the ecological perspective as 'the conservation fallacy in much of our debate between animal welfare people and environmentalists' and admits that he gets 'very impatient' when he 'hears arguments whether the whales are going to extinction, with the implication that if you say "no they aren't", then to hell with them.' In his opinion minke whales, harp seals and East African mammals 'have to be *cared for*' (my italics) even though 'they are in their hundreds of thousands or millions.' The reason for this?'... because they are important in the world.'

Even though it is not obvious what Holt means by 'cared for' here, nor what he is looking for beyond the idea of acting ecologically, it would appear that the animal rights concept has got the upper hand. If we interpret him from this point of view the 'care' he is looking for must involve respecting the basic rights of animals, which are first and foremost the right to life and the right to freedom. If we decide to interpret him from an animal welfare point of view, 'care' would involve ensuring that the basic needs of animals in captivity are satisfied, and that animals we choose to kill – either because they are necessary for food or clothing purposes, or because they are in conflict with human interests, for example agricultural interests – are killed as quickly, efficiently and painlessly as possible.

As we have seen, animal rights, animal welfare and conservation are three totally different concepts. But they are also conflicting concepts. Therefore, it is essential to separate them from each other. The conflict between animal rights and conservation is inextricable and based on principle, while the conflict between animal welfare and conservation can often be solved by compromise, taking both interests into account.

Allow me to present one of the innumerable possible examples where the three concepts clash. In Australia introduced species are endangering the original fauna and attenuating biodiversity. For this reason, war has been declared on rabbits. It is an all-out war. Even viral weapons have been used, inflicting a most painful and lingering death on the animals. In such cases, animal rights campaigners would defend the individual rabbit's right to life. This is an absolute demand that cannot be settled with the help of ecological arguments. Animal welfare advocates, on the other hand, would be capable of understanding the ecological necessity of reducing the rabbit population, but would perhaps argue that the pain inflicted on the animals by viral warfare was unacceptable. Their demands would involve the development of more humane killing methods.

Let me interject by saying that animal welfare is a valid concern. We should care for animals – including those that end up on our tables. I was once a sheep farmer and spent one month every year sleeping in the barn with my sheep during lambing, getting up every other hour. This was more for my conscience than for the furtherance of my business profits. I did not want an animal to suffer because I was not there to help. In the rural societies I know of, caring for animals is a deeply rooted conviction. Animal rights will never be so. North of the Arctic Circle it is not possible to cultivate anything other than grass and potatoes. Communities like the one I live in, a fishing village with a population of 400, cannot exist without killing cod, sheep, whales and seals. According to animal rights philosophy, even fish have the right to live.

Eco-philosopher Sigmund Kvaløy Sætereng, has defined the distinguishing feature of the Norwegian version of environmentalism as 'the conservation of Man in Nature'. Here he is referring to the environmentalist's commitment to the fight to protect local communities, and to their understanding of the relationship between nature and culture. Inherent in this fight is the struggle to maintain local

communities' rights to resources – and to see that their use is sustainable (Sørensen, 1993).

Unfortunately, many international organizations that consider themselves green share Holt's lack of desire – or ability? – to distinguish between conservation, animal welfare and animal rights. This is particularly applicable to the organization Holt represents, the International Fund for Animal Welfare (IFAW). Even though IFAW claims to be an animal welfare organization, its founder, Brian Davis, is quoted in an IFAW brochure as saying: 'The question the seal hunt posed was not just how seals were killed, but whether they should be killed at all.'

Fortunately, the major international fora concerned with the environment find animal rights incompatible with conservation. Last year, IFAW's application for membership of IUCN–The World Conservation Union was turned down because IFAW's animal rights sympathies were in conflict with the mission of the IUCN (IUCN, 1995).

The confusion surrounding green organizations' definitions of conservation (choice of policy) seems to be specifically linked with a handful of popular species: kangaroos, elephants, whales and seals. The WWF acknowledges sustainable use in principle as an integral part of conservation and supports certain African conservation projects involving a hunt. This policy does not, however, include whales. In a position statement (July 1992) it stated that even if the International Whaling Commission were to implement a management procedure, 'which would guarantee that whaling was only carried out on a truly sustainable basis, the WWF would remain opposed to (commercial) whaling.' The President of WWF-US, Kathryn Fuller, explained this position by saying that whales 'have an intrinsic value as mammals of great intelligence, whose behaviour and language set them apart' (Fuller, 1995). In other words, she is not pressing for animal rights but for exclusive whale rights. There is a lot of evidence to indicate that such inconsistencies in WWF policy are attributable to financial issues. 'We are trying to bring our members along on utilization,' the Chairman of WWF-US, Russel Train, explained, 'but our development people, the fund-raisers, are very nervous because there is no question that many of our members are animal lovers and have difficulty in making the evolution to a more sophisticated understanding of conservation' (Bonner, 1993).

In Holt's opinion 'the critical question' in fora such as IUCN and CITES is as follows: 'Can a consensus that any use of wildlife resource should be sustainable ... properly be interpreted as meaning that 'use' – lethal use, that is – of all wildlife is mandatory?' He points to marine mammals as 'the crucial test case in this controversy.' Here, he is turning the issue upside down. Nobody has ever intended forcing the US to hunt the great stock of sealions off the coast of California. Similarly, I hope that nobody will attempt to force us, the people of northern Norway, to start hunting the innumerable eider ducks that we, historically and culturally, have a special relationship with. The fact of the matter is that Holt's organization, IFAW, intends to make the *protection* of all marine mammals mandatory. One of its top priorities is to force Newfoundlanders to stop hunting a harp seal stock that numbers 4.7 million. It even employs boycotts of Canadian exports in order to force its views on the Canadian Government.

Holt is right on one point, though. Marine mammals do constitute the crucial test. 'Increasingly, supporters of a permanent moratorium (on commercial whaling) build their case on the proposition that whales should be granted the right to life', writes US environmentalist Oran Young (Young, 1994). In their position statements, some of the most influential IWC member nations, such as Australia, New Zealand and the USA, have established themselves as opponents, on principle, of all commercial whaling, whether sustainable or not. The IWC, in competition with 'The Great Ape Project' (Cavalierie and Singer, 1993), is in the process of making whales into the first species to be awarded rights by an internationally acknowledged forum. But how can one refuse to give other animals rights if whales have them? The notion that whales are 'set apart' from the rest of the animal kingdom does not hold water.

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Before concluding, allow me to correct Holt's representation of myself and the organization I work for. He writes that the High North Alliance is 'purporting to "represent" regional fishing interests.' We do not purport to do so, we do in fact represent them. We are a democratic umbrella organization whose members include organizations for sealers, whalers and fishermen of Greenland, the Faroe Islands, Iceland and Norway. All these areas are represented on our board. Our objective is to defend the right to sustainable use of marine mammals.

Furthermore, I do not represent a northern 'node' of the Wise Use Movement, as Holt claims. First, 'movements' do not have any formal structure or limitations, and their constitution is consequently often rather obscure. Having no membership criteria, anyone who wants to can join. My knowledge of the Green Movement is far more intimate than my knowledge of the Wise Use Movement. However, among the organizations I know of that define themselves as Wise Use, some have come about as a reaction to animal rights infiltration among the greens. It seems to me that some of the Wise User's are over-reacting, denying that there are any such things as environmental problems. Even though some greens are wrong about some things, it does not necessarily mean they are wrong about everything.

Second, I have never felt at home in movements. When you are 'moved' by something, it is very easy to lose your sense of judgement and your sense of direction. I don't care whether people claim to be green or wise; what is crucial to me is whether they turn out to be true conservationists.

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African elephant numbers – a new approach

Conservationists have followed the fate of the African elephant for decades. Many and varied actions have been taken to conserve elephants throughout Africa, including their listing on Appendix I of CITES in 1989. Data on the changing status of African elephants is often presented in support of actions taken, but the validity of such data is also questioned. This in turn lays open to criticism the scientific basis upon which any decision to act has been made.

Here lies the irony. Elephants remain one of the biggest and best-known conservation problems, and in many respects one of the best studied. Yet uncertainty arises about how the status of African elephants has changed over the past two decades, for many reasons. First, elephants range over vast areas of Africa, including in savannah and rain-forest habitats, and monitoring is very expensive. Hence, only part of the elephant range, largely in protected savannah areas, has been included in high-quality and repeated counts. Second, it has only proved possible to count elephants in large tracts of rain forest through the indirect method of counting dung in small areas, and extrapolating to larger areas. Third, relatively few savannah populations have

been censused from the air for long enough to detect trends. Fourth, many populations move across international borders and may be double- or under-counted by different range states. Fifth, many elephants live in areas of political strife where no scientist can venture to undertake counts. Overall, there has been great variation in the quality and methods of collecting data. These doubts allow the more critical to question whether the often quoted continental totals of 1.3 million African elephants in 1979 and of 600,000 in 1988 have any firm basis.

Scientists from UNEP and the IUCN/SSC African Specialist Group have just completed 3 years' work assessing the quality of the most recent data on the African elephant. They felt that the summation of individual elephant populations into uncategorized national, regional and continental totals is misleading because it takes no account of the variety of data types and data quality. In essence, the available estimates range from accurate total counts in some places to guesswork in many others. Bearing these problems in mind, the scientists have published a report that begins to correct some of these deficiencies for the most up-to-date status data on African elephants (Said *et al.*, 1995). The African Elephant Database (AED) 1995 is the hard copy of a comprehensive, and totally redigitized, GIS database that contains data on the range and latest estimates of elephant numbers. The new database supersedes the AED 1992 (Douglas-Hamilton *et al.*, 1992) and introduces a new system of categorizing data to better reflect variety in quality and in method of collection.

On the basis of the new data categories, the report suggests the following continental totals: 286,000 definite; 101,000 probable; 156,000 possible, and 36,000 speculative. Elephants now occupy around 5.8 million sq km of their former range of 30 million sq km (Said *et al.*, 1995). Deliberately, the new database makes no attempt to analyse past or present trends in elephant numbers throughout Africa because most data are not in a suitable format for such analysis. The next phase of the AED project aims to incorporate analyses of key populations, where like is compared with like, and possibly some predictive modelling. For example, the AED could be linked with other databases held at UNEP to predict future pressure points of human–elephant conflict. Furthermore, the AED will be made available in a user-friendly form where it can be used interactively by members of its constituency in the African range states.

The AED 1995 serves as a benchmark that will allow the highly emotive issue of elephant conservation to be judged on a more rigorous scientific basis than was possible previously. Such an approach is vital to underpin any assessment of the success or failure of major conservation policy actions, such as the listing of elephants on Appendix I of CITES. The continental divide over policies adopted towards elephant conservation can only move forward and be healed on the basis of such a rigorous assessment of the available data on elephant numbers and status.

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Loss of a population of elephants confirmed in Malawi

In 1994, following reports that one of Malawi's discrete populations of African elephants *Loxodonta africana* had disappeared from Majete Game Reserve, FFI funded Brian Sherry to conduct a survey of the reserve and adjacent communal land in an attempt to discover what had happened to them. The report from that survey* confirmed that the elephants had indeed disappeared, not only from the reserve but from the entire area.

In the early 1980s, there were vague estimates of 70–100 elephants in the Middle Shire Valley, southern Malawi, but little was known of them other than that their movements extended beyond the boundaries of the 670-sq-km Majete Wildlife Reserve. Between 1983 and 1987 Sherry had made over 50 field trips in order to estimate their range, seasonal distribution, numbers and their relationship with man. The surveys revealed that there were an estimated 200–300 elephants ranging over about 1000 sq km, much of it within Majete Wildlife Reserve. Despite some conflict between elephants and man, particularly with regard to crop-raiding, elephants and humans tended to avoid each other. As late as early 1986 there was no apparent large-scale elephant poaching.

During 1986 and 1987, following increased hostilities in neighbouring Mozambique, hundreds of thousands of refugees flooded into southern Malawi. In late 1986 a refugee camp was established near the northern edge of the elephants' range. The camp eventually hosted more than 60,000 refugees; previously undisturbed woodland supplied their building and fuelwood needs. Disruption of elephant behaviour and increased human–elephant conflict was an inevitable consequence of the camp's location. With the subsequent establishment of numerous similar camps in the region, there was a general breakdown of social order.

Elephant hunting with AK47 automatic rifles proliferated, apparently spear-headed by a small number of people from Mozambique. During the period 1988–1991 at least 40 elephants were known to have been killed by poachers. In 1989 a Malawi Government/FAO national survey of large mammals gave an estimate of 125 elephants for the Majete area and noted an increase in elephant poaching. There was little effective response by government. Although some poachers were arrested, some ivory confiscated and some AK47s recovered by the Police Mobile Force, following an early incident in which game scouts encountered armed poachers, there is little evidence for further substantial support, either from the Police or from the Department of National Parks and Wildlife (DNPW) administration. The game scouts were armed with old service .303 rifles, usually with no more than three rounds of ammunition each, no match against groups of heavily armed poachers. Although some increases were made in law-enforcement staff numbers, the only other response was to exhort the scouts, in writing, to increase their efforts. Morale among Majete staff became severely eroded and patrol coverage of the reserve became minimal.

After March 1991 there were no further elephant sightings. In 1992 the DNPW Research Unit carried out a ground survey of part of the reserve to assess elephant status followed by an aerial survey in 1993. The remains of five elephants were located from the ground in the reserve but no further signs were found.

In 1994, in collaboration with DNPW and the Wildlife Society of Malawi and with funding from FFI, Sherry carried out an independent survey in the area. Forty-six elephant remains were located by ground searches, within and outside the reserve, and aerial surveys along approximately 200 linear km located a further six carcasses. Although in total only 52 elephant remains were located, extrapolation of the results of the aerial survey samples support the hypothesis that all the elephants (200 or more) had been killed. There was no evidence that some of the elephants had fled into Mozambique.

The report points out that, in spite of a stated commitment to wildlife conservation, during the mid-1980s the Malawi Government's failure to provide adequate law enforcement led to the extinction of one of the country's few remaining elephant populations, possibly amounting to as much as 10% of the national herd. Since the introduction of democratic rule in 1994 there have been substantial positive changes within the Malawi Government, and with the cessation of war, most of the refugees from Mozambique have returned home. There is now an opportunity to manage Majete once more as a viable wildlife reserve.

Malawi's eight remaining elephant populations have a discontinuous range, being isolated by agricultural development and human settlement. Most are found in protected areas,

although some are resident outside these and many elephants normally resident in protected areas extend their range during the wet season when they follow normal dispersal patterns and are attracted to agricultural crops. In some parts of the country there is movement across international boundaries into Zambia and Mozambique. Such movements make comprehensive elephant protection extremely difficult. While the greatest threats to Malawi's elephants are probably the ever increasing demands for agricultural land and fuelwood, illegal hunting for ivory at a commercial level also poses a serious threat. Prior to the extinction of Majete's elephants, other protected areas had suffered the depredations of illegal elephant hunting, both from within Malawi and from Zambia. Conflict between elephants and man in the peripheral areas of the elephants' range has been an ongoing problem and leads to frequent calls for control of croprаiders. If Malawi's elephants are to survive this combination of threats there must be total commitment and co-operation between all concerned agencies, not only in government and local non-governmental organizations, but also in the external donor community. A national strategy is needed to ensure the survival of Malawi's remaining elephants and other large wildlife species. Such a strategy should learn from mistakes made in the Majete Game Reserve.

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Obituary: F. I. Parnell MBE, 1914–1995

Frederick Ivor Parnell (known to his friends as Fip) was born in India in 1914 and died at Pietermaritzburg on 5 October 1995 after a long illness. After graduating from Cambridge University, he joined the Colonial Service in 1939, being appointed to Basutoland (now Lesotho). In 1949 he was appointed Assistant Director of the Game and Tsetse Control Department, Northern Rhodesia (now Zambia) and in June 1956 he succeeded the founder Director of the department, T. G. C. Vaughan-Jones (see *Oryx*, **21**, 314).

During his term of office as Director, the department passed through a very traumatic period. In 1959 the tsetse control section was merged with the Veterinary Department and the remaining part renamed the Department of Game and Fisheries, and placed under the Ministry of Native Affairs. Transfer of tsetse control to the Veterinary Department was logical but allocation of the remaining Game and Fisheries to the Ministry of Native Affairs was a nonsense. It should have been put under the Ministry of Lands and Natural Resources, which eventually it was. Inevitably there was a lowering of morale among the staff but Fip held the department together during this very difficult period. His continuing tenure of office saw: the Kariba game rescue operations on the north bank of the Zambezi, in which the department was closely involved and which attracted world-wide attention; the setting up of a Wildlife Committee; gazetting and early development of the Kafue National Park – the first game reserve in the country to be upgraded to national park status; and the visit of T. Riney and P. R. Hill on the African Special Project for IUCN, which was the forerunner of the eventual large-scale FAO project in the Luangwa Valley. It was also under his directorship that pioneer game-cropping schemes were initiated in the East Lunga area of Kasempa District and in the Luangwa Valley.

In April 1963 he went on leave pending retirement from the department and then joined the FAO Kariba fisheries research project. Later he served the Natal Parks Board and after final retirement did voluntary work for various charities. Fip had the highest standard of integrity and I am personally grateful for all the help he gave me during my own career in the department, particularly in encouraging and assisting my mammal studies.

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