A MONSTROUS TRAGICOMIC SCENE

An essay by Rowan Martin and Marshall Murphree

REFLECTIONS

ON THE

REVOLUTION IN FRANCE,

AND ON THE

PROCEEDINGS IN CERTAIN SOCIETIES

IN LONDON

RELATIVE TO THAT EVENT.

IN A

LETTER

INTENDED TO HAVE BEEN SENT TO A GENTLEMAN

IN PARIS.

BY THE RIGHT HONOURABLE

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Abstract

The recent meteoric rise to prominence of the Animal Rights movement and their powerful influence in the political sphere is a cause for disquiet amongst the more experienced conservationists, practitioners of wildlife management and those who place great weight on the issue of human livelihoods in Africa. The future of elephants will largely be determined by the extent to which the value of their ivory, an indisputable part of Africa's natural wealth, can be used to secure their survival. We illustrate this point with a case study of Zimbabwe where, without a trade in ivory, the future of elephants is in jeopardy.

Authors' Foreword

In 1790 Edmund Burke wrote his essay on the Revolution in France, which he referred to as "a monstrous tragicomic scene" (Burke 1790). Although the trade in ivory may not have the same status as the French Revolution in the grander scheme of things, attempts to legislate this trade out of existence bear many of the tragicomic characteristics that Burke found in the French Revolution. The essay title is apt for the recently established 'London Convention' and the parliament[1] of Animal Rights groups – which Burke would have found interchangeable with the 'National Assembly' created in France at the time of the French Revolution. Debates on the topic continue to recycle a failed paradigm of management devised by distanced opinion and dependent on coercion for implementation, while the use and proper stewardship of elephants in Africa continues to decline.

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1. A 'parliament' is more commonly used as the collective noun for a group of owls.

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Introduction

> "Because half a dozen grasshoppers under a fern make the field ring with their importunate chink ... do not imagine that those who make the noise are the only inhabitants of the field." Burke (1790, p71)

Since 1989,[2] wildlife in Africa has progressively become more and more of a global commons with the decisions affecting the future of its charismatic large mammals (elephants and rhinos) being largely determined by the nations of the western hemisphere. These nations, in turn, are being increasingly influenced politically by a rising tide of animal rights activists. The CITES forum is the main arena where the dramas are played out.

CITES entered into force on 1 July 1975 and now has 183 Parties. Decisions are taken by the member countries at Meetings of the Conference of the Parties (CoP) which are held every three years. In acceding to the Treaty, nation states are aware that they may lose some of their sovereign rights over species within their own countries – however, it is the extent of this process that forms the *raison d'etre* for this essay.

The first author was present as part of the Zimbabwe delegation to the 1989 CoP held in Lausanne, Switzerland, when the vote was held on a proposal to list the African elephant on Appendix I. Prior to the vote, Zimbabwe had proposed a secret ballot because of the extreme pressures being exerted on some of the Parties to agree to the ivory trade ban. The Zimbabwe proposal was rejected and it was decided to hold a 'roll-call' vote because of the gravity of the issue. The procedure for such a vote entailed using a random number to select the first country to vote and the chair of the session would then call out the name of the country that had to say 'Yes' if it supported the listing on Appendix I or 'No' if it opposed it. The sequence of voting thereafter followed the alphabetical order of the countries after the first one.

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2. In 1989 the African elephant was listed on Appendix I of CITES (Convention on International Trade in Endangered Species). All international trade in raw ivory was effectively banned.

Vanuatu, a small Pacific island nation with a population of less than 300,000 persons, was selected to vote first. The chair called its name and in clarion tones Vanuatu shouted 'Yes'. At that moment the scales fell from my eyes and I was suddenly able to understand the truth. This was a lunatic democratic express careering off the tracks. Vanuatu has no elephants and would not be accountable for the subsequent costs of protecting and managing Zimbabwe's elephants without an income from ivory. It is doubtful whether Vanuatu would have reached this decision in the absence of the intensive lobbying that took place at the meeting.

Trade bans

Stiles (2015a and 2015b) describes the animals rights movement and analyses their ideology –

> "Groups such as IFAW, HS, Born Free, EIA and others are setting the "conservation" agenda today. Through a massive public relations effort they have been so effective in mobilizing public and Western national government support that mainstream, genuine conservation NGOs such as WCS and WWF have been forced to move in the animal rights direction in order to maintain their membership base and preserve credibility."
>
> "These groups are encouraging worldwide domestic trade bans on elephant ivory and destruction of national ivory stockpiles as a strategy to save elephants from extinction. They oppose all commercial use of wildlife, regardless of whether such uses are sustainable, positive for habitat and species conservation or contributing to human livelihoods. They maintain that no product derived from wildlife should be utilised and wild animals should be allowed to roam in idyllic peace as nature intended without the rapacious hand of man intervening. Trading ivory, under any circumstances for any reason, is evil in this new universe. Regrettably, this "Stop Ivory" approach reflects an overly simplistic, Western viewpoint founded in animal rights ideology. It inflicts questionable policies on African countries, with disastrous consequences for both Africa's people and wildlife."

Stiles gives the six main arguments used by the Animal Rightists against a legal ivory trade and demolishes each of them with objective analysis. One of the arguments is that in a corrupt world, a legal trade undermines conservation (Bennett 2015). However, corruption, like the poor, will always be with us. Eradication of all corruption in the wildlife trade is as utopian as it would be in politics. The tighter production and marketing structures are drawn together and the more functionally focused the system is, the easier anti-corruption measures will be. An open market unfettered by CITES constraints is the most likely to result in transparency and achieve the desired stability between supply and demand. Moreover, it would end the current situation where, because trade is illegal, there are no data to assess the true situation.

Wildlife Trafficking – Obama's Executive Order and the London Convention

The United States Strategy towards Sub-Saharan Africa released by the White House, Washington DC in June 2012, stated –

> "America believes in Africa as a region of growing opportunity and promise, for Africa, for America, and for our people and our economies. We believe that Africa can be the world's next major economic success story. We will work with our African partners to build strong institutions, to remove constraints to trade and investment, and to expand opportunities for African countries to effectively access each other's markets and global markets, to embrace sound economic governance, and diversify their economies beyond a narrow reliance on natural resources, and – most importantly – create opportunities for Africa's people to prosper."

All of this is laudable. It heralds an era of cooperation, partnership and prosperity. The US comes across as a powerful and insightful partner, collaborative but not coercive. However, President Obama's 'Executive Order – Combatting Wildlife Trafficking' on 1 July 2013 and the recent ban on trophy imports from Tanzania and Zimbabwe into the USA projects a different image: that of an enforcer prepared unilaterally to use its privileged position to enforce its own perspectives. There appear to be two USAs, the one developmentalist and the other imperialist.

The London Conference on the Illegal Wildlife Trade was organised by the UK Department for the Environment, Food and Rural Affairs in conjunction with the Foreign and Commonwealth Office, the Department for International Development and the Home Office. The Conference brought together over fifty countries and international organisations. It resulted in the London Declaration on the Illegal Wildlife Trade on 13 February 2014.

> "The animal rights propagandists have effectively linked poaching and wildlife trafficking to international organised crime and funding terrorism, thus threats to national security. The UN system, many EU organs and the US Fish and Wildlife Service have been conned into accepting this sinister scenario. Sustainable wildlife trade has been tarred with the brush of organized crime and terrorist involvement." Stiles (2015b)

There is a serious scale mismatch between the global institutions (rules and legal frameworks) governing the management of elephants and ivory and the *de facto* management of elephant and ivory in the field (Martin *et al*. 2012). The Principle of Subsidiarity[3] may provide guidance for the development of appropriate levels of decision-making and management of elephants and ivory at regional, national, sub-national and local levels. In President Obama's Executive Order and the London Declaration it is evident that secondary importance is accorded to local peoples' livelihoods.

In the interplay between local and global benefits in biodiversity there is a critical nexus which largely determines the success or failure of sustainable use initiatives at both levels. ... The incentives which determine preferences for the mode of use vary significantly from global to local levels. Unless these incentives are made compatible the necessary collaboration for their attainment will be lacking (Murphree 1997). Bromley (1994) comments that "Incentive compatibility is established when local inhabitants acquire an economic interest in the long-run viability of an ecosystem that is important to people situated elsewhere. ... Such ecosystems represent benefit streams for both parties: those in the industrialized North who seek to preserve biodiversity and those who must make a living amid this genetic resource. "

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3. First enunciated by Pope Leo X (1475-1521), the principal of subsidiarity holds that '*it is an injustice, a grave evil and a disturbance of right order for a larger and higher organization to arrogate to itself functions which can be performed efficiently by smaller and lower bodies'*.

Without incentive compatibility stasis occurs, since each party has an operational veto over the other. Through policy, legislation and fiscal controls governments and international agencies can deny local people the organizational conditions necessary for the attainment of their conservation incentives. Through their in-place location and *de facto* managerial status local people can render external initiatives futile. The central challenge is, therefore, to transform such initiatives into sets of congruent, although not necessarily identical, incentives.

There is nothing inherently incompatible in these two incentive profiles. .... Dissonance arises when the two are brought together in one arena of action and where one stance is accorded "privileged problem" status. At present the tendency is for international intrinsic and existence valuations to be accorded higher order status and for local and instrumental conservation incentives to be regarded as lower level factors to be co-opted in the pursuit of these values. **This does not work**. Aside from their inherent merits, local incentives have a powerful veto dimension. Unless they are accommodated, international values and goals will be subverted by local responses ranging from defiance to covert non-compliance.

The London Convention is in effect a declaration about eliminating wildlife trade, not about promoting legal wildlife trade. Among its defects the greatest is the lack of science in a document purporting to come from the scientific community. The proposed moratorium on international trade in all elephants for at least ten years betrays its anti-experimental, non-comparative stance and leaves one wondering where these "scientists" received their training (Murphree 2015).

The Convention's advocacy of the destruction of seized illegal trade products is at best a wasteful action, but when it comes to ivory and rhino horn we are talking about something very different – valuable items and scarce natural products produced at great expense by range states that may be impoverished in many other ways. Such perverse pyromania is theft on a grand scale, theft of a citizenry's collective wealth to put on a carnival disguising the system's failures. In the document this is justified as sending "... a clear message that the products of endangered species that are traded illegally will never enter the legal market." Actually the "strong message" is quite different for the illegal trader: '... supplies are likely to be disrupted and prices may rise – we had better get in there as soon as possible and get more of the stuff.'

Leakey, speaking of hunting bans in the Kenya context, has this to say: "The current system has been an utter failure, and wildlife through Kenya is being relentlessly eliminated. We need an entirely different way of thinking." (Quoted in Martin 2010). The same could be said of other countries in the region.

The deterioration in the situation for elephants in Africa may be caused by the trade bans advocated by the animal rights groups and implemented by CITES and the United States Endangered species Act (ESA).

The Real World

There were more elephants in Africa in 2012 than there were in 1995 (**Table 1** below). The population of the Central Region has halved since 1995 but the deficit has been made up by the increases in Southern Africa (46%) and East Africa (26%). The elephant range in Africa has decreased by some 42% since 1995 with largest decrease being in the Central Region (64%).

Table 1: Changes in elephant numbers and range 1995-2012

Data from IUCN African Elephant Status Reports1995-2012

	Elephant population			Elephant range (km^2)		
Regions	1995	2012	Increase %	1995	2012	Decrease %
West	9,171	8,987	-2.0	227,088	175,552	22.7
Central	217,625	107,900	-50.4	2,769,550	1,005,234	63.7
East	127,189	160,525	26.2	1,075,362	873,318	18.8
Southern	214,332	313,099	46.1	1,725,798	1,312,302	24.0
TOTALS	**568,317**	**590,511**	**3.9**	**5,797,798**	**3,366,406**	**41.9**

The shrinkage in elephant range is not surprising given the increase in human populations on the continent (**Table 2**, next page). The present human population in the countries making up the elephant range is some 855 million people of which 546 million live in the rural areas. Elephants generally cannot co-exist with people when the human population density exceeds 20/km^2 (Parker & Graham 1989). This density has been exceeded in 21 of the 37 countries in the range. Far from being alarmed at the present status of elephants, we should be pleasantly surprised at how well they are surviving amongst a burgeoning human population.

Table 2: Regional human population numbers and densities 2013 (World Bank 2015)

	HUMAN POPULATION						
	Number of countries	Area of Region	NUMBERS		DENSITY		
			Total	Rural	Overall	Rural	Number of countries D>20/km^2
Regions	N	km^2	millions	millions	/km^2	/km^2	
West	13	5,100,200	325	184	64	36	10
Central	7	5,365,100	114	73	21	14	1
East	8	4,299,500	265	205	62	48	6
Southern	9	5,950,500	151	84	25	14	4
TOTALS	**37**	**20,715,300**	**855**	**546**	**41**	**26**	**21**

A Case Study – the New Zimbabwe Elephant Management Plan

A recent national survey of elephants in Zimbabwe estimated the total population at 82,092 animals (Kuvawoga & Dunham 2014). Three out of the four subpopulations making up this total are at a higher density than is considered desirable for the conservation of biological diversity and habitats – both for elephants and for other species. Zimbabwe is preparing a new elephant management plan that seeks to reduce elephant numbers in these subpopulations to densities less than 0.5 elephants/km^2. This will doubtless attract the full fury of the animal rights movement.

Recent archaeological evidence shows that man has been regulating elephant numbers since the start of the Pleistocene (Surovell *et al*. 2005). There is nothing 'natural' about elephants in a large national park: they are missing their 'superpredator'.

As they increase in density, they will cause 'trophic cascades' in their habitat and the habitats for other species. These changes may not be easily reversible since they involve the loss of topsoil. Aldo Leopold (1949 *Thinking like a Mountain*) describes the phenomenon – in the passage below it requires only to replace the word "deer" with "elephant" and the word "wolves" with "humans" and to realise that a range damaged by elephants may take a long time to recover –

> "I now suspect that just as a deer herd lives in mortal fear of wolves, so does a mountain live in mortal fear of its deer. And perhaps with better cause, for while a buck pulled down by wolves can be replaced in two or three years, a range pulled down by too many deer may fail of replacement in as many decades".

There are strong reasons for reducing the number of elephants in protected areas in Zimbabwe. Reducing elephant numbers carries less risk than not reducing them. The major population reductions carried out in Zimbabwe between 1970 and 1990 entailed the removal of complete breeding herds. This form of culling achieves the largest reductions for the smallest offtake of animals. Whilst elephant populations can increase at a rate close to 5% per annum, it requires an offtake of only 3.2% of the population in breeding herds to prevent the population from increasing. The reduction results in a huge surplus of ivory – not from the culling operations but from the natural mortality of the old males not affected by the culling. The potential revenue that can be generated from this form of management is very high indeed especially at the current prices for ivory.

The price of ivory has increased three-fold since 2010 (Vigne & Martin 2014). Typical export values that might be expected in Zimbabwe for single tusks are estimated as follows –

Tusk weight (kg)	10	20	30	40	50
Price US$	6,000	20,000	40,000	66,000	97,000

The greatest problem of implementing any management plan for elephants lies in obtaining a secure and sustainable source of funding to protect and manage the population. To maintain its Parks Estate, Zimbabwe requires some US$17 million in annual revenue. This recurrent expenditure is unlikely to come from the fiscus or non-hunting tourism but it could easily be generated from ivory and international trophy hunting. It is important to explore the management options that might provide it. Whilst most of the Safari Areas in the Parks Estate could probably meet their own costs from trophy hunting, the large national parks present the greatest challenge.

If we take the practical case of the elephant population in Hwange National Park, the present population of about 40,000 elephants is four times larger than the desired final population of about 10,000 elephants. It will take some 20 years at an annual offtake of 3,000 animals to reduce it to the required number (**Table 3**, next page).

It is possible to cause the extinction of the population by the sudden removal of large numbers of breeding herds. This can be avoided by reducing the culling effort well before the population reaches the desired level.

This is done by using a classic control function to adjust the culling effort as the desired population level is approached . The control system uses the difference between the actual and desired condition (the error), the rate of change of the error (the derivative of the error) and the past history of changes (the integral of the error) to adjust cull numbers –

$$F = \alpha e + \beta \frac{de}{dt} + \gamma \int_0^t e.dt$$

– where **e** is the error (the difference between the actual population number and the desired population number); α, β and γ are constants; and t is time.

Table 3: Net income from natural mortality ivory generated in the course of reducing an elephant population from 40,000 animals to 10,000 animals

Year	Population numbers			Cull numbers			Net income (US$)			Park budget US$m	Cumulative net income US$m
	Males	Females	Total	Males	Females	Total	Culling	Nat. mortality	Total		
0	20,000	20,000	40,000	1,180	1,820	3,000			*Inflation %* ➤	2.0	
1	19,516	18,274	37,790	1,186	1,814	3,000	7,598,653	**11,194,148**	18,792,801	2.0	16.8
5	17,854	14,381	32,235	1,210	1,790	3,000	8,129,186	**13,173,516**	21,302,702	2.2	89.0
10	14,332	8,520	22,852	1,242	1,758	3,000	9,438,881	**15,829,054**	25,267,935	2.4	194.4
15	10,079	3,148	13,227	677	857	1,534	6,896,153	**18,707,011**	25,603,164	2.6	314.6
20	8,607	2,168	10,775	123	156	279	1,347,343	**23,179,310**	24,526,653	2.9	422.5
25	7,854	2,224	10,078	65	93	158	447,367	**27,300,886**	27,748,253	3.2	537.8
30	7,299	2,683	9,982	0	0	0	0	**31,729,343**	31,729,343	3.6	671.6
35	6,791	3,296	10,087	25	40	65	118,879	**34,310,314**	34,429,193	3.9	820.5
40	6,289	3,822	10,111	53	86	139	321,216	**33,101,135**	33,422,351	4.3	969.9
45	5,914	4,264	10,178	73	118	191	434,620	**27,000,933**	27,435,553	4.8	1,098.6
50	5,758	4,529	10,287	111	174	285	680,504	**17,232,394**	17,912,898	5.3	1,182.1
60	5,836	4,534	10,370	158	235	393	983,884	**8,351,501**	9,335,385	6.4	1,240.6
70	5,942	4,308	10,250	150	225	375	943,225	**8,939,038**	9,882,263	7.8	1,259.6
80	5,944	4,195	10,139	137	207	344	899,356	**10,687,237**	11,586,593	9.6	1,284.4
90	5,922	4,164	10,086	134	200	334	824,371	**11,463,040**	12,287,411	11.7	1,299.0
100	5,880	4,174	10,054	130	197	327	829,712	**11,972,407**	12,802,119	14.2	1,296.9

The income derived from the population could be substantial. From the start of the reduction it is sufficient to meet the annual operating budget for the park which has been rounded to US$2 million and allowed to inflate at 2% pa. Ten years after the start the net income is over U$25 million annually. The cumulative net income after deducting the park budget in each year exceeds US$1 billion in Year 45. Interest on capital is not included in the figures. It takes the population about 70 years to develop a new stable age structure and, after 100 years, the income (US$12 million) is close to that expected from a population held at 10,000 animals by culling about 330 animals annually.

The entire exercise could be seen as retrieving the capital value that has been built up by allowing the population to increase unchecked until it reached 40,000 animals. The damage to the environment that occurred by allowing this might require a large part of the recovered capital for restoration!

Conclusions

We began this essay with a title from Edmund Burke (*Reflections on the Revolution in France*) and drew parallels with the establishment of the 'National Assembly' in Paris which followed the Revolution. The destruction of a nation's social capital was easy to achieve but the task of replacing it with a workable political and legal system was less easy. Burke asked the question whether the transformation of the society which they sought needed the complete removal of all the social systems that had evolved over the history of France. Long before the current time, Burke appeared to be aware of complex systems and the interactions that are not predictable between the parts of the system.

Today's animal rights revolutionaries are guilty of ignoring the lessons of history. History tells us that trade bans do not work. If there is a genuine demand for a product it will find its way to the end user regardless of the laws and regulations of the day. Alcohol prohibition in the United States from 1920-1930 and the ongoing war against illegal drugs are cases in point. The current laws that have been promulgated exemplify the situation where the authoritative reach of the law exceeds the implementational capacity of those who are expected to enforce it.

Some readers may regard this essay as a dreadful materialist raid on a magnificent species, devoid of any aesthetic appreciation. To the contrary, our lifetime of professional experience has developed within us a deep emotive respect for the elephant. Their continued sustainable presence is a landscape goal of the authors. For this to happen, however, several things must take place. Given the exponential growth of the

continent's human population, land use will have to be planned for and managed much more intensively, the vast stretches of savanna available for wildlife at the beginning of the colonial era being no longer available. The opportunity costs of assigning habitat to elephants and other wildlife will have to be included in budgets and covered by productive returns if they are to be politically acceptable. Management options will need further exploration and refinement, and will need to be funded with revenues derived from the resource itself.

Genuine partnerships should develop between State wildlife agencies and the local communities bordering on State protected areas – this will require full empowerment of rural peoples over wildlife outside parks so that the partnerships have a symmetrical status. In this way the essential trust and cooperation needed to make the system prosper (Beinhocker 2006, pp428-432) can be developed.

Fiscal leakages and operational inefficiencies caused by corruption will be reduced by operating in an open, transparent market. An international ivory trade system needs to evolve that exhibits efficiency, compliance, sustainability and significant contributions to economic growth – particularly that of the African range states which hold a virtual monopoly over the resource.

The changes suggested above will not come easily or evenly. Multiple longitudinal experiments will have to be made, risks will have to be taken and mistakes will doubtless be made. But collectively they will have to be tried if the future of the African elephant is to be more than one confined to a few protected areas supported by an affluent élite. Difficult as these changes may seem, there is no alternative. Elephants deserve better than a ban.

Burke was scathingly critical of revolutionaries who assumed power for which their experience did not qualify them (Quote I), who derived policy solely through deductive reasoning (Quote II), who avoided experiment (Quote III) and who had not thought forward about the consequences of their actions (Quote IV).

I "Those who quit their proper character to assume what does not belong to them are, for the greater part, ignorant both of the character they leave and of the character they assume. Wholly unacquainted with the world in which they are so fond of meddling, and inexperienced in all its affairs on which they pronounce with so much confidence, they have nothing of politics but the passions they excite." (p10)

II "The pretended rights of these theorists are all extremes; and in proportion as they are metaphysically true, they are morally and politically false." (p52)

III "The science of constructing a commonwealth or renovating it, is like every other experimental science, not to be taught *a priori*." (p51)

IV "This Assembly has hardly a year's prescription. We have their own word for it that they have made a revolution. To make a revolution is a measure which, *prima fronte*, requires an apology. To make a revolution is to subvert the ancient state of our country; and no common reasons are called for to justify so violent a proceeding. The sense of mankind authorises us to examine into the mode of acquiring new power, and to criticize on the use that is made of it, with less awe and reverence than that which is usually conceded to a settled and recognized authority." (p136)

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