

Repairing the Irreparable: Why it is Difficult to Argue for Conservation of an Extinct Ecosystem

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Abstract

A plan has been proposed to restore the North American ecosystem to a prehistoric state. This “Pleistocene re-wilding” has been met with extreme hesitation by conservation biologists, despite sharing underlying goals of large mammal conservation and ecosystem restoration. Conservation biology rhetoric shows that success of efforts hinge on the ability to argue protecting an “irreparable” resource. The PRW proposal uses this same rhetoric, however fails to illicit a similar response while arguing to repair what is already lost. A detailed evaluation of conservation biology rhetoric shows how this proposed agenda will continually fall short without a severe shift in strategy.

Keywords: extinction, rewilding, Pleistocene, North America, ecosystem, conservation, overkill, de-extinction

1 “Extinction is the Ultimate Crime against Nature Extinction Means Forever”

(Center for Environmental Education; in Cox 1982)

A group of conservation biologists present an ambitious and novel conservation plan to introduce large African and Asian mammals to North America, restoring an ecosystem that has been extinct for 13,000 years (Donlan et al 2005, 2006). The proposed plan, termed Pleistocene re-wilding, has been met with extreme hesitation and controversy (Caro, 2007; Oliveira-Santos and Fernandez, 2009; Smith 2005). Donlan et al. (2005) argue that this plan is “justified on ecological, evolutionary, economic, aesthetic and ethical grounds”. With such a justification, it may be surprising that conservation biology has been slow to explore this notion. Despite the slow uptake, this issue has begun to make itself more relevant, garnering a call for a special issue of World Archaeology and backing by members of the political Green Party. Due to its suggested merits and its gathering support, it makes sense to assess why the reception of this conservation strategy has been largely negative and why opposing Pleistocene re-wilding so successful. The key to understanding the reception and oppositional arguments, I argue, lies in the rhetoric employed by the Pleistocene re-wilding proponents and how this rhetoric functions within conservation biology.

While the justifications of the project can be and are argued (e.g. Rubenstein et al. 2006), the overall intent of the project strives to achieve goals most conservation biologists and ecologists would deem important such as restoring complex ecosystems and maintaining large mammal global biodiversity. The fact that the initial proposal was met with such hesitation by other conservation biologists suggests that something other than the goals of the project are in dispute. Currently, the proponents of the Pleistocene re-wilding theory are utilizing a rhetoric of the irreparable that is widely adopted by conservation biologists (Cox 1982; Soward 2006). While this rhetoric has proved invaluable to gathering support for conservation issues, it works against this particular conservation strategy of re-wilding. Unless new rhetorical strategies are employed, Pleistocene re-wilding will continue to be received as a less important and pertinent issue than other conservation efforts.

2 The Irreparable

Conservation biologists utilize a successful rhetoric focused around the notion of the irreparable (Sowards 2006). Cox (1982) describes the locus of the irreparable as a rhetorical strategy for assigning value and importance to a given cause by arguing that there will be irreparable consequences in the face of action or inaction. As a way to evaluate relative value with other causes, Cox (1982) focuses on looking at the rhetoric employed to instill uniqueness, precariousness and timeliness in the cause or object that faces irreparable consequences.

These three components are necessary for making a compelling case for irreparability. Conservation biology has utilized these components and the rhetoric of irreparability so successfully that conservation efforts have become the focus of many social, political and academic programs. This paper will explore how this rhetoric of the irreparable, with focus on uniqueness, precariousness and timeliness is successfully employed in conservation biology in addition to adding a fourth component to Cox's (1982) original discussion: accountability. The notion of accountability serves to further the value of conservation efforts in conjunction with the unique, precariousness and timeliness components, and is critical in establishing personal and social value for a given cause or object. Through examples of current conservation literature, the success of the rhetoric of irreparability when discussing these types of issues will be highlighted.

While the Pleistocene re-wilding strategy is termed a 'conservation strategy', it functions very differently when utilizing the rhetoric of the irreparable. Focusing on the short article published in *Nature* by Donlan et al (2005), I will evaluate why this rhetoric fails to instill value in this case and fails to elicit a call to action from its audience when placed in the context of the irreparable. The Donlan et al (2005) piece is chosen to highlight these shortcomings because it is a succinct publication that accurately reflects the rhetorical strategies utilized in more detailed publications proposing the same strategy (eg Donlan et al 2006). Furthermore, its publication in the journal *Nature* implies that this strategy is intended for a more general audience (scientists versus strictly conservation biologists), suggesting that this document was intended to elicit a call to action among a more general group of individuals. By addressing a larger audience, the publication received a wide variety of published responses making it possible to study the reception of some readers to the proposed strategy. In looking at the responses by Dinerstein and Irvin (2005), Schlaepfer (2005) and Smith (2005), the ways in which the rhetoric of the irreparable fail the Pleistocene re-wilding argument are emphasized, complimenting and justifying the rhetorical analysis of the Donlan et al (2005) piece.

It is not surprising that the proponents for Pleistocene re-wilding, who are largely conservation biologists, have presented their cause using the same rhetoric of the irreparable that has proven useful with other conservation strategies. There is, however, a critical flaw with arguing from the irreparable; Pleistocene re-wilding proposes repairing that which is irreparable. This fundamental difference drastically affects the perception of audiences to the proposal for Pleistocene re-wilding. Without the adoption of new rhetorical strategies, the Pleistocene re-wilding conservation strategy will have a difficult time gaining enough support from the scientific community to see their plan become reality.

3. Rhetoric of Irreparability in Conservation Discourse

Arguing that "a decision cannot be repeated and its consequences may cause irrevocable loss" is commonplace in our personal and public lives (Cox 1982: 227). As Cox (1982) notes, these claims are prevalent in our discussions of abortion, capital punishment, environmental hazards and even commercial advertising ("Final Closeout! Prices Will Never Be This Low Again!"; Cox 1982). To harness the full effect of the rhetoric of an irreparable situation or decision, the individual must invoke a sense of quality or value for their cause or object. One could always argue a decision is irreparable, however if there is no value to what is in danger of being lost there will be no desire to act to prevent its loss. From this notion, Cox (1982) recognized that there are three main components to successfully arguing one's cause from the locus of irreparability: uniqueness, precariousness and timeliness. With a successful combination of these three components, an individual will be able to instill a sense of value and urgency for decisions that may have irreparable consequences.

The power of instilling the sense of caution and forewarning of irreparable damage or change and creating a successful call to action has been utilized with extraordinary success by conservation biologists. Conservation biology and ecology functions around the idea of irreparable loss or damage and the fields are deeply entrenched in this rhetoric.

Looking at the rhetoric of successful conservation strategies, the success of individual strategies or projects hinges on the ability to qualify the uniqueness of that which might be lost, the precariousness of the given situation and the need for a timely (often immediate) response. In addition to these three components, the rhetoric of irreparability is greatly influenced by creating a sense of accountability by a given audience. This is the critical fourth component that often makes conservation strategies successful. It is the interplay between these four components, and the ability of the individual to successfully present them, that establish the relative importance of different conservation efforts and strategies within personal beliefs, community efforts and political spheres.

3.1 Uniqueness

To create a successful call to action, one must first argue for the value of what might be lost. While all four components of the rhetoric of the irreparable contribute to this notion, the most fundamental contributor is establishing uniqueness. That which is unique, or different from the mundane or common, is often ascribed as more valuable; it is that which is rare and sought after. In order for an object or act to qualify as irreparable it must be fundamentally unique (Cox 1982).

The first step in arguing for a conservation strategy or efforts for a given species is to establish its uniqueness. Originally, this argument for uniqueness in conservation efforts centered on establishing species as ‘rare’ and often ‘magnificent’; this translated to focus on large animals and more specifically large animals that can evoke some kind of emotional response (e.g. able to be portrayed as ‘cute’ or anthropomorphized; Kricher 2009: 172). This appeal to something wondrous and rare served to efficiently claim uniqueness. However, as more and more species became ‘unique’, the notion of being ‘unique’ was no longer exceptional in itself. If everything is unique, nothing is unique. For this reason, establishing uniqueness for conservation efforts has most recently been focused on identifying keystone, flagship or umbrella species (Sowards 2006). Identifying species that are not only endangered, but directly affect the success of entire ecosystems, most which contain other ‘unique’ species, elevates their unique status relative to other causes.

The language establishing uniqueness is often straightforward and the claims clear. For example “the *unique and priceless* riverine woodlands and streams” (Blair 1981), and “[Orangutans] are *completely unique* in the great ape world... like no other primate in the world” (Soward 2006: Balikpapan Orangutan Society) show this literal presentation. When not clearly spelled out as ‘unique’, ecosystems or species are often pitted against the “usual, the ordinary, the vulgar, that which is fungible or interchangeable” (Cox 1982: 229, citing Perelman & Olbrechts-Tyteca, 1971). Both of these techniques serve to not just support the species’ uniqueness, but to elevate that uniqueness above others. Once this value has been established, a sense of caution over action or inaction is evoked by employing the notion of precariousness.

3.2 Precariousness

The very act of placing something unique in a situation where it may be lost, places its very existence as precarious (Cox 1982: 230). That which is precarious then gains value in contrast with what is abundant, permanent or enduring (Cox 1982). In conservation biology, arguing for precariousness manifests itself in two ways: what is seen as fragile, and what is established, stable or secure but threatened by radical intrusion (Cox 1982). These two manifestations serve different purposes but often work together. In arguing a system or species as ‘fragile’ one is calling to action a conservation strategy, leading to active strategies such as the construction of game parks/reserves or assisted migration. Arguing for a system that is stable but threatened by radical intrusion is often utilized as a call for inaction. These types of appeals are often utilized in scenarios to call for the stop of development of ecosystems, for example, the logging of forests and rainforests. In reality, many of these strategies calling for inaction are focused on objects that are deemed fragile as well, evoking the power of both scenarios.

Establishing precariousness in conservation biology and ecology has become very systematic with the introduction of the International Union for Conservation of Nature (IUCN) endangered categories. The classification scheme works to point out the relative precariousness of species, or the potential for loss, on a scale from “least concern” to “extinct”. Evoking these terms in conservation strategies has become an efficient way for establishing the contribution precariousness has on the proposed strategy or the identified species. The idea of precariousness has become inextricably entwined in the rhetoric of conservation.

The key to evoking value from arguing for precariousness in conservation biology is drawing the conclusion that while precarious, that which is threatened “need not be lost if one acts as the rhetor requests” (Cox 1982: 230). This is the very foundation for proposing conservation strategies, and the point where timeliness becomes an important factor.

3.3 Timeliness

Timeliness functions to encourage an audience to take immediate action to prevent a potential loss of the irreparable. Similar to precariousness, timeliness as a rhetorical tool emphasizes the urgency to save the unique (Soward 2006: 126). Using the rhetoric of the irreparable, the individual offers an “opportunity to act in appropriate ways before it is too late” (Cox 1982: 232).

When coupled with uniqueness and precariousness, temporal appeals utilized in conservation biology solidify the call to action or inaction. This is often seen in modeling current biodiversity loss or rate of loss of habitats. These appeals of timeliness are often very forceful and compelling: “[Environmental, nongovernment organizations] use words and phrases such as urgent, immediate, crisis, ‘orangutans face extinction,’ and ‘they will vanish from the wild within the next decade unless immediate action is taken!’” (Soward 2006, 127: Balkipapan Orangutan Society-USA, n.d.).

Estimations of years to extinction have become rampant in conservation biology publications (eg. Spotila et al, 2000; Mace and Lande, 1991). Ironically, when taken to the extreme, this appeal to timeliness can, on occasion, diminish the urgency for action by invoking resignation. The argument that some species, despite being recognized as unique and in a precarious situation, are beyond saving based on their extremely short projected time to extinction has been utilized to rhetorically shift the focus from some ‘critically endangered’ species (IUCN, SSC international news release, 2008). This strategy serves to show the critical component timeliness plays in establishing successful and well-received conservation strategies.

While the previous three components work to establish value for a proposed conservation strategy, there remains one rhetorical practice that is necessary to make the appeal to action or inaction most effective: establishing accountability.

3.4 Accountability

Establishing accountability for conservation practices effectively compels the audience to act on the potential consequences of irreparable damage or change. Arguing for a human cause leading to this potential irreparable loss instills a sense of guilt resulting in the notion of responsibility for both previous and potential action/inaction. Examples of instilling the notion of accountability in conservation biology are abundant, and again made very explicit. For example, Russon (2000) makes human impact on orangutans rhetorically unambiguous:

This tiny community, like the whole species, is on the verge of collapse, and this damage has been suffered at human hands. The threat is not new- it can be traced back 40,000 years to when humans first reached the isle of Borneo. But it is now on the point of sending orangutans into extinction, as it has sent so many other species in the last century. (194)

This passage shows how accountability becomes the focus of our desired effort to act on conserving the orangutan. It emphasizes the precarious nature of this species as a direct result of human action. They are ‘on the verge of collapse’ because of ‘[suffering] at human hands’. They are being ‘[sent] to extinction’ by humans. Humans are being presented as the clear cause for the precariousness of this species, suggesting it is our responsibility to act. In short, we must be held accountable for our actions in the past and we must be willing to be accountable for the consequences of action or inaction in the future.

It is the dichotomy between past accountability and future accountability that makes this component powerful. After past accountability is established, e.g. we’ve accepted that it is our fault orangutan habitat is disappearing and the species is declining as a result, a sense of collective guilt for human kind is in place. From this collective guilt, stems the responsibility for future action or inaction. If no action is taken, are we willing to live with the guilt of the irreparable damage? This association is powerful and successfully drives the notion of accountability towards action/inaction in conservation strategy.

There is no doubt that utilizing the rhetoric of irreparability has been a successful strategy for conservation biology. Why is it then that utilizing this strategy has been a disadvantage for the conservation proposal of Pleistocene re-wilding? It has served as a hindrance because the fundamentals of this cause directly oppose the fundamentals of utilizing irreparability to evoke value.

Pleistocene re-wilding, as a proposal, is not offering a choice to save something from irreparable loss. It is offering the choice to repair what has previously been viewed as an irreparable that already had been lost. Evaluating the rhetorical strategies used by Donlan et al. (2005) will show how Pleistocene re-wilding attempts to employ the four components of irreparability, why the attempts are unsuccessful and how their lack of success is confirmed by reception of this piece.

4. Pleistocene Re-Wilding: Repairing the Irreparable

Donlan et al. (2005) argues for Pleistocene re-wilding utilizing the rhetoric of the irreparable but with subtle variation to what is seen in traditional conservation strategies: the object of focus is an extinct ecosystem as opposed to an endangered species or ecosystem. This difference is significant for the reason that what is being focused on for conservation has already been lost. It is extinct and “extinction means forever” (Center for Environmental Education: Cox 1982). This distinction affects every aspect of the rhetoric of irreparability, diminishing the power of uniqueness, precariousness, timeliness and to some extent accountability.

Donlan et al. (2005) employ the same tactics for establishing uniqueness as other conservation strategies. They focus much of the discussion on large vertebrates and pits them in direct contrast with the mundane and ordinary “pests and weeds” that, he warns, “will otherwise come to dominate the landscape” (Donlan et al 2005). The species he argues are candidates for reintroduction to North America have already been well established as ‘unique’ in conservation literature. However, the proposed strategy is not focused on conservation efforts of these established ‘unique’ individuals; the proposed strategy is on the re-establishment of an ecosystem. The uniqueness of this ecosystem is argued based on the understanding of what already has been lost, not what will be lost:

In the Americas, where large-vertebrate losses were greatest, the subsequent changes were undoubtedly ecologically and evolutionarily significant. Large carnivores and herbivores often play important roles in the maintenance of biodiversity, and thus many extinct mammals must have shaped the evolution of the species we know today. pp5

While Donlan et al (2005) establish the unique aspects of the ecosystem that has been lost, it does not function to as a tool to evoke compelling value towards their cause. The ecosystem has been lost and it is therefore in essence irreparable. A retrospective view on its uniqueness without the ability to recover that uniqueness makes the argument powerless.

While Donlan et al (2005) argue that the animals they propose to re-introduce are unique, there is no sense of saving something unique or rare and preventing irreparable loss, when applying these proxies to North America. The species presented being proxies, while not negating the fact that they may still replace some ecological impacts that are reminiscent of the extinct ecosystem, are still just proxies. While the extinct animals have an inherent uniqueness about them (how can you be more rare than only existing as fossils and renderings?) their uniqueness is not what is being salvaged. To argue the uniqueness of the ecosystem despite using proxies, Donlan et al (2005) would have to focus on setting up the dichotomy between the current ecosystem of North America being mundane or ordinary and the proposed ecosystem being unique and extraordinary. The problematic assumptions behind setting up this dichotomy was promptly pointed out in a Correspondence piece by Dinerstein and Irvin (2005):

...they do not discuss a real effort that is already under way to restore native North American prairie wildlife on the Northern Great Plains... this would provide habitat for nearly the entire suite of North American grassland species that have lived here... within the past 10,000 years.

Dinerstein and Irvin (2005) highlight the Northern Great Plains as a unique ecosystem in its own right, an ecosystem that Donlan et al (2005) must dismiss as mundane to be worthy of replacement by a Pleistocene ecosystem. They continue their correspondence by noting the efforts to conserve unique North American species that are still present and in danger (e.g. Bison, black-footed ferrets, mountain lions, etc.). Highlighting the unique aspects of the North American ecosystems functions by utilizing the rhetorical aspects of the irreparable in favor of inaction concerning the Pleistocene re-wilding agenda.

While the ecosystem and evolutionary processes that Donlan et al (2005) propose to reclaim by this effort are unique, the fact that the species of that previous unique ecosystem no longer exist make the argument of reclaiming uniqueness a difficult sell when compared to preserving existing uniqueness that could be irreparably lost.

Donlan et al (2005) attempt to make an appeal to the precariousness of the situation largely by emphasizing the precariousness of the species they propose as proxies. Throughout the article, the categories of ‘endangered’ or ‘critically endangered’ are utilized to evoke the widely accepted categorization and understanding of precariousness. Discussion of the inability for the cheetah to survive in the wild is highlighted, as well as the “increasingly threatened” lion (Donlan et al, 2005).

The problem with focusing the argument on the precarious nature of these proxy species lies in the fact that their precariousness is already being addressed and dealt with in many other conservation efforts. This is highlighted in the Correspondence of Chapron (2005):

...Josh Donlan and colleagues do not discuss successful efforts to ensure long-term survival of large carnivores in Africa and Asia... We believe that these diverse pilot schemes will ensure that large carnivores in Africa and Asia have a good chance of persisting in the wild into the next century.

This highlights a common complaint about the Pleistocene re-wilding proposition. There are well-established conservation plans and efforts already in place to remedy the precarious nature of these animals that are endangered or critically endangered. This detracts severely from the Pleistocene re-wilding proposal, and unless efforts currently in place can be shown to not alleviate the precariousness of a given species, and this proposal would improve that situation, utilizing this component in their argument does very little.

On a more fundamental level, the conservation strategy Donlan et al (2005) propose has no element of precariousness involved. The species and the ecosystem that they hope to revive are extinct. It does not exist and by definition is not in a precarious situation. This same notion holds true when discussing the issue of timeliness.

Since the object of focus is already gone, already extinct, there is no urgency to act. Again, the only urgency to act is placed on the emphasis of the proxy species and their possible irreparable loss. As shown above, arguments based on the proxy species are extremely weak. As a result, timeliness functions very powerfully against Pleistocene re-wilding. Not only is there no sense of urgency to reclaim this lost ecosystem, there tends to be a notion of prolonging inaction associated with it. This is an interesting function of the very idea of being able to 'repair the irreparable'. Extinction is forever. At least with modern technology it is. However, as more work is being done in fields like ancient DNA and cloning, it is very feasible that extinction is not always going to be forever. While opening an entirely different ethical discussion, this notion of being able to restore 'extinct' species, not proxies, and re-create extinct ecosystems may be serious cause for hesitation. With new technologies on the horizon, the argument could be made for complete inaction until a true repairing of this extinct ecosystem is feasible.

At the very least, the fact that Donlan et al (2005) are arguing to restore something that has not been established as precarious, suggests that conservation biologists and ecologists should take as much time as needed to assess the impacts and implications of such a proposition, rendering the component of timeliness useless for the purposes of calling to action Pleistocene re-wilding. This lack of timeliness coupled with arguments against Pleistocene re-wilding that successfully utilize the rhetoric of irreparability, tend to invoke an extreme sense of hesitation and caution when entertaining this conservation proposal.

The final component of the rhetoric of irreparability, accountability, is the most emphasized in the Pleistocene re-wilding proposition. While the relation between the extinction of the species and ecosystem of focus and human cause starts off as cautious and full of hedges ("humans were *probably at least partly* responsible for the Late Pleistocene extinction in North America") the rest of the article makes no hesitation in blaming humans for the cause of global extinctions in general (Donlan et al. 2005). While accountability may turn out to be the most powerful tool Donlan et al. (2005) have for arguing significance and warranting further discussion about Pleistocene re-wilding, it is currently unbalanced and does not serve their purpose.

As mentioned above, accountability works in two spheres, the past to employ a sense of guilt and the future to employ a sense of responsibility of humans. The Donlan et al. (2005) piece does an excellent job of reinforcing the future responsibility. Their section titled "Meeting the Challenge" focuses on utilizing this responsibility to be accountable while making their strongest rhetorical case for a call to action:

In the coming century, by default or design, we will constrain the breadth and future evolutionary complexity of life on Earth. The default scenario will surely include... a continuing struggle to slow the loss of biodiversity... We ask those who find the objections compelling... will you settle for an American wilderness emptier than it was just 100 centuries ago? Will you risk the extinction of the world's megafauna should economic, political and climate change prove catastrophic for those populations remaining in Asia and Africa?

The obstacles are substantial and the risks are not trivial, but we can no longer accept a hands-off approach to wilderness preservation. (Donlan et al. 2005)

While the call for accountability and taking responsibility for the future is compelling, the proposal as a whole lacks accountability for the past, and therefore lacks the ability to instill guilt over the loss of the Late Pleistocene mammals and ecosystem that is proposed for restoration. The discussion on human caused extinctions since the late Pleistocene can be compelling, but without establishing the affect of guilt over the loss of the Pleistocene mammals, their arguments over why this time period should be established as the restoration goal remains weak. The effect of this imbalance is shown by Schlaepfer's (2005) response to the proposition, where he applauds the proactive notion presented by Donlan et al. (2005), but has clearly not been convinced that the Pleistocene ecosystem should be of significant focus:

Being bolder and more ambition is the right idea- but Donlan and his colleagues have the wrong vision.... A positive vision can catalyze a movement and generate real change, so it is critical for such visions to be grounded in reality... As an alternative we... suggest that conservation efforts in North America should focus on restoring the megafauna native to this continent...

This excerpt highlights the success in Donlan et al's (2005) proposal for a more aggressive and active approach, an approach that their call in the previous passage highlighted. However, there is no uptake of the desire to restore the Late Pleistocene system, showing that establishing the accountability for that particular portion of the past has failed.

While attempting to employ the rhetoric of the irreparable in arguing for Pleistocene re-wilding, not only has Donlan et al (2005) been unable to evoke value and a forceful call to action, but they have presented the conservation strategy in a format that is easily opposed by those already working with the rhetoric of irreparability (i.e. other conservation strategies). Many examples of this have surfaced, but the general argument is summed up nicely by Smith (2005) in response to Donlan et al (2005):

... global climate change since the Pleistocene extinctions makes the restoration of vanished ecosystems through large-mammal introduction quite unlikely. Such environmental change also increases the risk that introduced species might respond in unexpected ways... The inherent unpredictability associated with disturbing ecosystems means that, while some introductions might follow the camel's [unsuccessful] fate, others might prove all too capable of adapting to contemporary North American environments, potentially at the expense of other species of conservation value. Indeed, introduced species are now a major cause of biodiversity losses worldwide.

From this and past excerpts, we see how arguing for the uniqueness of the current North American ecosystem in conjunction with its precarious situation as a result of proposing Pleistocene re-wilding (a stable ecosystem threatened by radical action), serves to create hesitation and eliminate the desire for a timely response to the conservation strategy proposed. This combined with only partial success in arguing for accountability, sets up the Pleistocene re-wilding conservation proposal at a severe disadvantage.

As long as this concept is presented using the rhetorical strategies employed by conservation biologists on the locus of irreparability, it will always fall short. Those proponents for Pleistocene re-wilding will have to utilize a different rhetorical strategy if they want to garner more support. This will not be an easy task, as many of the supporters and the audience are deeply entrenched in the rhetoric of irreparability used in conservation biology. However, as we face new scientific advancements, a new rhetoric of the ability to repair the irreparable will become more crucial in establishing novel proposals such as Pleistocene re-wilding.

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