

Crying *Ubirajara*: Bad faith actors & weaponizing outrage in post-Trump palaeontology

by Jeff J. Liston^{1, 2}

¹Preservation and Research Section, Royal Tyrrell Museum of Palaeontology, PO Box 7500, Drumheller, AB, T0J 0Y0, Canada, <http://orcid.org/0000-0002-6763-5452>, leedsichthys@gmail.com;

²Palaeobiology Section, Department of Natural Sciences, National Museums Scotland, Chambers Street, Edinburgh, EH1 1JF, Scotland

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Within three months of the 'in press' online publication of the description of the theropod dinosaur *Ubirajara jubatus* in the December 2020 issue of *Cretaceous Research*, discussions were well-advanced between Staatliches Museum für Naturkunde Karlsruhe (SMNK), and the National Museum of Brazil, Rio de Janeiro, to repatriate the Brazilian specimen to the Cariri Museum in Brazil. The intervention of a hostile and at times violently threatening social media campaign derailed these discussions in April 2021, delaying the repatriation procedure. The online social media campaign included bomb and arson threats to public buildings, as well as the sabotaging of the online presence of a public museum. Although attempts may well be made to link the repatriation to the online social media campaign, it is not unreasonable to observe that the social media campaign not only jeopardised the return of the specimen, but also has generated considerable suspicion and mistrust regarding collaborations with Brazilian colleagues in general. The negative consequences of the online social media campaign are likely to last for some time, from creating distrust between Brazilian and other researchers (many of whom study in Germany) to delaying the repatriation that was already being discussed within three months of the paper's initial appearance.

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Introduction

In July 2022, the Ministry of Science in Baden-Württemberg announced their intention to repatriate the Brazilian theropod known (for a short time at least; Smyth *et al.* 2020; Caetano *et al.* 2023) as *Ubirajara jubatus*, with only a few details remaining to be resolved, involving the pick-up by Brazilian representatives in Germany, the transportation to the Santana Museum and possible associated casting for the institutions involved. This had substantively been the identical position over a year earlier. But after the discussions had started on 2nd February 2021 (Lydon 2021) with the Director of the National Museum of Brazil in Rio de Janeiro, they were summarily curtailed on April 12th against the background of an escalating social media campaign primarily based on Twitter. So what went wrong?

Social media and the decline of facts

The evolution of social media platforms over the last decade has become more increasingly moulded by the companies involved (Lukianoff and Haidt 2019). Beyond 2009's introduction of the facility to like and share content, 2012/2013 saw the development of algorithms to guide content to users that they were most likely to share and like, which invariably were posts that stimulated anger at outgroups and encouraged dishonesty (Haidt 2022). The problems caused by the resulting breakdown of truth and trust in societies and the political threats that they create have been highlighted by Nobel Peace prize win-

ner Maria Ressa (Ressa 2022) and the way that negative dialogue and outrage, faux or otherwise, can be honed with algorithms to inflame and consolidate engagement are exemplified by the events in Washington D.C. on the 6th January 2021 (Timberg *et al.* 2021; January 6th House Committee and Melber 2022; Ng *et al.* 2022). But this engineered forum similarly operates to persecute groups or individuals: as Haidt (2022) notes, a small subset of people on social-media platforms are highly concerned with gaining status and are willing to use aggression to do so, therefore "by giving everyone a dart gun, social media deputizes everyone to administer justice with no due process". It also plays to the mindset of angry and controlling individuals described by Bancroft (2002) "[he] isn't interested in debating ideas; he wants to impose his own" (Bancroft, 2002: p. 235-236). The bubble or echo chamber that provokes such responses, cyberbullying and toxic engagement does not need to be any reflection of the real world, with social media presenting an excellent opportunity to gaslight large numbers of people with minimal effort, whether by Trumpian dog whistles or simple factual inaccuracies that appeal to audiences looking for outrage, thus having potential real-world consequences. So, too, it cannot be expected that the field of palaeontology will be immune to such travails, if it intersects with these platforms. In this context particularly Twitter with its focus on concise messages through its 250-character limit per post encourages brevity at the cost of context and without significant capacity (or indeed need) for evidence (Haidt 2022).

Enter the Spearlord

Twitter (twitter.com), now X, is a large social media platform that allows users to post short statements and add emojis, GIFs, images and videos to them. Currently, there is a 250-character limit for non-paying users; the same limit was in force during the period of the online events addressed here. Twitter allows the use of hashtags (terms preceded by the ‘#’ sign) to mark posts (called ‘tweets’) so that they can be assigned to an easily findable subject. Twitter also offers a list of trends, which usually consists of the hashtags that are currently the most mentioned or replied to. Given the changes in management policies and the resulting surge in hate speech and consequent abandonment of the platform that accompanied Elon Musk’s recent acquisition of Twitter, it is currently unclear if the platform will continue long term, but in the decade since the viralization algorithms were first deployed (Frankel and Conger 2022), the most prominent intersection of palaeontology with social media has arguably been the #UbirajarabelongstoBR campaign, primarily but not exclusively based on Twitter. Although posts can be strung together into threads, Twitter’s 250-character limit by its nature encourages posts with reduced content and context, in contrast to other social media platforms.

The campaign began following the pre-publication of the scientific paper ‘A maned theropod dinosaur from Gondwana with elaborate integumentary structures’ by Smyth *et al.* in the Elsevier journal *Cretaceous Research* on 13th December 2020. After a query regarding the provenance of the specimen – formally named *Ubirajara jubatus*, which translates as ‘the crested lord of the spear’, referring to the unusual stiffened integumentary structures – was received by the journal from the Sociedade Brasileira de Paleontologia just over a week later on the 21st December, along with a formal response to the paper by a group of Brazilian palaeontologists led by Professor Dr. Taissa Rodrigues Marques da Silva, the paper was temporarily retracted on the 24th December, pending the resolution of the query by the authors.

By 2nd February 2021, one of the authors, Professor Eberhard Frey, then palaeontologist at the Staatliches Museum für Naturkunde Karlsruhe (SMNK), where the specimen was deposited, was in talks with Professor Alex Kellner, the Director of the National Museum of Brazil in Rio de Janeiro, to arrange the repatriation of the specimen. This was logical, as Frey had experience in repatriating material from the SMNK (e.g. the Kuss Collection; Iliopoulos *et al.* 2010), negotiations reaching the proposal of a cast of the specimen being retained by both those museums while the original specimen was destined for the Santana do Cariri palaeontological museum. In March 2021, Nor-

bert Lenz, Director of the SMNK and also an author on the paper, alerted Frey that the provenance information in the paper was incorrect: the specimen had not been obtained in 1995, but had been bought from the company ‘Fossils Worldwide’ by SMNK in December 2009. In response, Frey added this change to the manuscript, which was being modified at that time, but meanwhile the internet activity had escalated to become a “fierce social media campaign” including mobbing of the public museum’s social media sites (the Instagram and Facebook accounts being blocked by chain letters from individuals that neither knew nor enquired about the facts of the case) and culminating in threats of arson/bombing of the institution (Ortega 2022). At this point, the state (Baden-Württemberg) intervened, suspending all non-ministerial talks and efforts to repatriate the specimen.

The investigation - #UbirajarabelongstoBW

From April to September 2021, the Ministry of Science in Baden-Württemberg investigated the acquisition of specimen SMNK PAL 29241. After being exported by a Brazilian company (Winpex Comercia Importadora e Exportadora), the specimen had lain for some years in the stock of a Rheinland-Pfalz retailer, its poorly preserved nature ensuring that it attracted little interest. Knowing that the business was about to be sold off for estate settlement purposes, Frey and Lenz visited to see what might be available in December 2009. There were two categories of material that constituted this clearance sale, the first being of clear interest and therefore priced prohibitively, while the second consisted of oddities of no clear importance, therefore substantially more affordable. The “fossil Brazilian cow pat” (Jehle 2022b) fell into the latter category, but Lenz and Frey knew that anything that had arrived after 26th April 2007 would not have arrived legally in the country, according to the UN agreement, so could not be acquired by the museum (Kinkel 2022a). However, after checking the paperwork, the situation was quite clear: the specimen had been declared on 26th June 2006 under customs tariff number 9705 0000 9010, clearing the customs office at Frankfurt Airport three days later on 29th June. The total value of the consignment was €17,584.86, amongst which was the slab, noted as ‘unspecified/undetermined item’ under the description ‘Mineralogical collection pieces, here stones with imprints of various fossil animals from the Santana Formation, Lower Cretaceous period unprepared’; valued at €2,337.59. This date was 10 months before the 26th April 2007 cut-off date, when Germany ratified the 1970 UN agreement (Kinkel 2022a), so they proceeded with the purchase. (This delay of over thirty years in ratification is not unusual, as the UK only agreed to partially ratify the agreement in October 2002 (Liston 2013), thus supporting Foss’s interpretation that

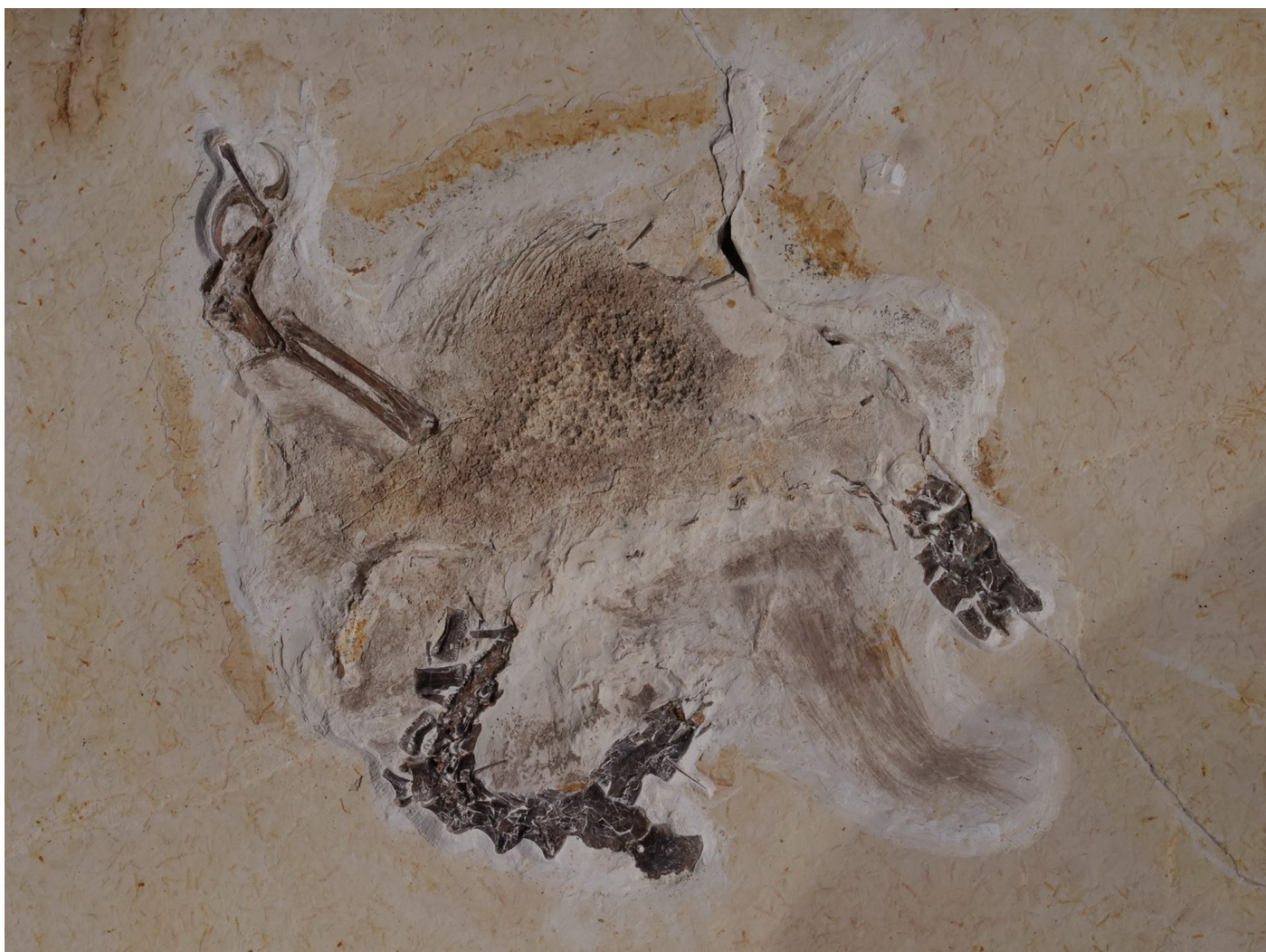


Figure 1. The main slab of the specimen originally described as *Ubirajara jubatus*. Used courtesy of E. Frey.

the 1970 agreement had more to do with securing the spoils of empire from repatriation claims than preventing the acquisition of further material (Foss 2019).) The international Society of Vertebrate Paleontology has extremely strict restrictions for its members regarding the purchase of fossils – specifically, it is entirely prohibited, unless it is a ‘rescue purchase’ of a scientifically significant specimen that through purchase is brought into a public trust in order to prevent its loss to science (Nudds 2001; Liston 2014). This is a scenario where that guidance clearly applies, for without the purchase by the SMNK museum, the specimen would have had no chance at being preserved in a public collection, even though the specific location of that public museum might arguably be less than ideal for a Brazilian specimen. Lenz and Frey thus bought the unprepared fossil from the specialist shop in Rheinland-Pfalz for €16,000 (Kinkel 2022a). The first exploratory work was attempted a few months later when a first X-ray was taken in March 2010, however the results were inconclusive and identification of the specimen was unsuccessful. The specimen continued to be regarded as “nothing really special” until 2016, when a preparator worked on the 300 gramme specimen for around 3

months (Jehle 2022b) (Figure 1), the work of preparation being widely regarded in palaeontology as able to transform often worthless material into things of great value (Leeds 1956).

2016 was also the year that Germany passed the ‘Kultur-gutschutzgesetz’ (Liston 2018a), under which material that had entered Germany before then was not subject to repatriation as per the UNESCO agreement. Even after the preparation work had been completed, due to its poor preservation, it was inconclusive that the material was even dinosaurian, Martill and Frey only coming to the conclusion that it was a theropod dinosaur as late as summer 2019. The investigation by the Ministry of Science in Baden-Württemberg thus concluded in September 2021 that the specimen had both legally entered the country and had been legally acquired by the SMNK (Kinkel 2022c). Furthermore, it was determined that any Brazilian fossil that was legally imported to Germany prior to 26th April 2007 need not be repatriated as there is no legal reason for such a return, although as pointed out at the time ‘needs not’ does not mean ‘cannot’, the door being kept open by the SMNK to pursue repatriation (Kinkel 2022c). The conclusions, however, were not arrived at

in time to avoid the permanent retraction of the paper by *Cretaceous Research* (Cisneros *et al.* 2022) the month before (Ortega 2021b). Nonetheless, this news triggered an escalation of the online campaign, with some of the most extreme interactions including the threat of arson (Ortega 2022).

But serious as such threats or cyberattacks on institutions such as public science museums (with their regular school class visits) are, Haidt (2022) draws further attention to the impact of particular social media platforms on individuals: "Platforms like Twitter devolve into the Wild West, with no accountability for vigilantes. A successful attack attracts a barrage of likes and follow-on strikes. Enhanced-virality platforms thereby facilitate massive collective punishment for small or imagined offenses, with real-world consequences, including innocent people losing their jobs and being shamed into suicide. When our public square is governed by mob dynamics unrestrained by due process, we don't get justice and inclusion; we get a society that ignores context, proportionality, mercy, and truth." A recent study published in *Nature* reviewed the increasing trend of online threats of physical or sexual violence including death threats received by a group of scientists (Hsu 2023), the same journal dedicating a 26/5/2023 podcast in its *Nature Careers* series 'Freedom and safety in science' to the problem of online racist abuse (Levy 2023).

Scientific colonialism or capitalism?

In this individualised context of cyberbullying (Taüber and Mahmoudi 2022), the online campaign had early on placed a particular focus on Professor Frey, as co-author as well as curator at the institution where the specimen was deposited, unaware of the private negotiations that were ongoing in the background and presenting it in the context of scientific colonialism. This was in spite of Frey being an illogical target with his work being a poor fit for such a label (Appendix A; EAVP Executive 2021), particularly in light of his previously noted work successfully repatriating material from SMNK. However, the term 'scientific colonialism' has been used loosely and with little regard to its original definition by Galtung (1967), wherein he specifically cautioned against its misuse due to the word 'colonialism' being an "emotionally loaded term" (Galtung 1967: p. 13). Rooted in the social sciences, Galtung developed it in the context of attempts by the CIA to achieve leverage over academics and institutions in Chile via Project Camelot (Galtung 1967), a scheme whose failure was part of a direct trajectory to the CIA's sponsorship of Pinochet's coup in 1973 (Qureshi 2009). In his seminal article, Galtung made recommendations for correcting asymmetry in research, describing scientific

colonialism as taking place within the specific scenario whereby an external state takes on a unitary role of control and access to another's scientific heritage - effectively substituting for an erstwhile colonial power - specifically defining it as: "the process through which the centre of the acquisition of knowledge about a nation is outside the nation itself, but in some other nation, the colonizer", relating it to exclusivity and control of access or an 'unlimited right of access to data' (Galtung 1967: p. 13).

More than just the emotional load noted by Galtung, there is, of course, a historical load attached to the word and in the more than half a century since he published, the geopolitical landscape has changed radically, consequently skewing both the understood and intended meanings further. As it is used almost exclusively to refer to the actions of former European powers, many of which have divested the majority of their former colonies, this by default ignores and excludes current neoimperialistic behaviour by other nations (Liston 2014) as well as countries still held as occupied or colonial territories within Europe or by non-European nations. It also does not distinguish between territories that are held, were formerly held, or simply have fallen into spheres of influence, whether military, economic or industrial, that can lead to a modern infrastructure that effects the same degree of heritage resource extraction as would have taken place under a former European imperial structure, thus not necessarily falling within the global south/global north axis. This leads to a lazy conflation of European and economic colonialism (Cisneros *et al.* 2022), allowing the term 'scientific colonialism' to be deployed politically as a dog-whistle term detached from its original meaning to provide a disingenuous framing device, but such distinctions are important, as losing them can obscure where power and control is actually being wielded in order to initiate or effect the removal of scientific heritage.

Although within this historical context the term 'scientific colonialism' can still have great utility in palaeontology when dealing with historical museum collections, the term needs to be divorced from modern experience in order to be useful, unless it explicitly complies with Galtung's 1967 definition. As such, the use of the term 'scientific colonialism' to describe specimens that either legally left Brazil (Kuhn *et al.* 2022) or legally arrived in Germany prior to April 2007 is inaccurate, misleading and therefore unhelpful. 'Colonialism' as a term is locked in the past, rooted in the historical exploits of former European powers and ignoring modern imperialistic ventures, whether in attempts to forcibly annex sovereign countries such as Ukraine, as well as in terms of simpler economics - a de facto 'othering' of the experiences of others who do not fall into a select club in order to devalue and diminish

their experience and suffering. This innate circumscription of the term ‘scientific colonialism’ - as recognised by Galtung - is at best a naïve branding misfire, at worst, a wilful dismissal of the breadth of historical experiences throughout the world that have involved exploitation of people less able to protect themselves and their scientific heritage. This forcible removal of scientific heritage dates back to that first iconic vertebrate fossil from the Meuse River taken by force to Paris in 1794 from its owner (Liston 2018a) and will occur forward beyond *Ubirajara*: constraining the legacy of imperial behaviour more narrowly within this context is discriminatory, implying that some experiences intrinsically have less validity, value or worth than other’s experiences.

In addition, these scientific heritage objects are distributed outwards from Brazil, with a wide range of distribution, counter to Galtung’s sole external end-recipient and beneficiary of the knowledge of another territory, precluding it from consideration as scientific colonialism in the sense of the original definition, wherein traditional interpretations of the term would look to evidence such as colonial links or infrastructure remaining in the post-colonial era that provided a pre-existing network that was still being used for exploitation. The only state with which control of the distribution of this material resides, is within Brazil (whether legally under Brazilian laws or illegally, avoiding Brazilian governmental oversight). Thus, where ‘scientific colonialism’ has become a problematic term due to its very real limitations as a simplistic lens fixed in history through which to view the contemporary world, ‘neoimperialism’ proves better, as it is cognizant of a changing world wherein former colonies themselves can be guilty of illegally appropriating material from former homes of imperialism, as demonstrated by a recent presentation which featured Moroccan scientists objecting to attention being focused on removed Brazilian fossils, as they felt that Brazilian scientists themselves were appropriating material from Morocco (Raja-Schoob 2021). Neoimperialism in particular is valuable as it recognises that the behaviour of scientific asset or knowledge appropriation does not only exist as a construct from a historical artefact but is an ongoing phenomenon, with some nations still contained historically within another’s control for many centuries, whether in the form of economic influence (e.g. China in Africa; Ze Yu 2022) or military presence or other form of economic or political control (USA, see MacLeay and Scott 1990; Vidal 2005; Vine 2015), the modern ‘soft’ infrastructure providing just as effective a network for resource extraction whether scientific or otherwise. These scenarios do not fall easily within the simple and similarly outdated ‘global south vs global north’ narrative, particularly in a time when Myanmar amber is primarily being removed from its native

state to China (both for publication and for sale) and the bulkiest collections of Brazilian fossil vertebrate material lie within the United States. In such circumstances, the use of the term ‘scientific colonialism’ to frame this pattern of behaviour is of limited utility, when neoimperialism or capitalism might be better descriptors.

Twitter, however, did not require either such considered discourse on the terminology deployed, or indeed more lengthy actual biographical information on one of the key authors on the paper – indeed, in the context of Haidt’s analysis (2022) of social media as encouraging dishonesty, it would almost be a requirement for this to be ignored, as they nuance a narrative that has to be kept brutally straightforward. As primarily a performative medium, Twitter does not lend itself well to reasoned dialogue and a hostile online environment is rarely genuinely seeking dialogue or resolution with its targets, as much as it is seeking to provoke a response or serve as an open invitation to public conflict (Haidt 2022).



Figure 2. Social media posting by A. Ghilardi using campaign hashtag and alleging theft.

On the origins of the online campaign

In this regard, it is important to look at the origins and strategy of the online campaign. The hashtag #Ubirajara-BelongstoBR, which became the banner of the campaign on all media platforms, was apparently first used by A. M. Ghilardi (Caetano *et al.* 2023). Ghilardi was one of the co-signatories to the commentary submitted by Rodrigues *et al.* in response to the in-press form of the Smyth *et al.* *Cretaceous Research* paper (Smyth *et al.* 2020). This commentary had been instrumental in getting the journal to temporarily suspend the article before it was finalised as a publication of record. One of the core underpinning arguments promoted by the campaign was that any specimen that left after 1942 could only have been illegally removed from Brazil or 'stolen' (e.g. Figure 2; Kinkel 2022c), however Brazilian palaeontologists disagree with this assessment (Kuhn *et al.* 2022), noting the urgent need for revision to the existing legislation (Abaide 2018, Kuhn *et al.* 2023). The campaign was further unrepresentative in that neither Ghilardi nor any of the main participants in the online campaign were elected representatives of Brazilian palaeontology, but were only self-appointed. Indeed, a number of Brazilian palaeontologists publicly distanced themselves from the campaign, in spite of the silencing effect on dissenting voices that an aggressive online campaign can have. However, the advantage of their not being representative individuals also meant that they were not accountable, giving them far greater freedom of expression in terms of what they might say without scrutiny. The voices of the campaign were thus able to foster outrage and incite aggressive online behaviour (Amman and Meloy 2021, 2022) by deliberate hate speech such as referencing the individuals as 'Nazis', which is a criminal offense under German law, to the extent that people can lose their jobs for making such a comparison online (Satariano and Schuetze 2022). This aspect of anti-German racism based on wartime stereotypes was also promoted by the second voice of the campaign, J. C. Cisneros (Figure 3) with anyone publicly pointing out the dangers of violating German law to him on Twitter being blocked (Mallison pers. comm. 2023). Hailing from El Salvador but based in Brazil, Cisneros was invited in April 2021 to contribute to a volume on ethics in palaeontology, on Brazilian fossil legislation in general as it related to means of working with colleagues on Brazilian material, with a specific invitation to talk about *Ubirajara*. Oddly, given the significance of such fora in the field (Liston 2016b; Raja-Schoob *et al.* 2021), he not only declined such an opportunity, but discouraged seeking others to do this, explicitly adding "I do not know of people in Brazil that would be interested in participating" (Cisneros pers. comm. 2021). As such he seems an unlikely advocate for Brazilian fossil material, seeking to suppress discussion

and dissemination of information on Brazilian palaeontological legislation and practices at a juncture when it would have been particularly helpful (Liston 2014; Liston and You 2015).

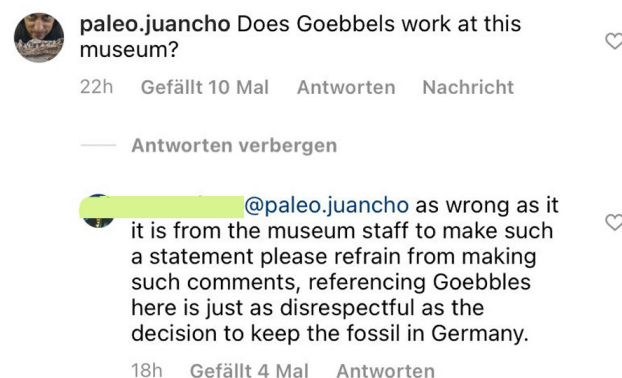


Figure 3. Social media posting by J.C. Cisneros making derogatory Nazi comparison, prosecutable under German law.

As has been noted, neither Ghilardi nor Cisneros made any attempt at all to communicate directly with either the authors or the institutions involved, which would appear to have been the most direct means by which to begin a dialogue if one genuinely desired to achieve a solution. This might well have been a constraint from their not being representatives, however, as they could not get in contact in any form of official capacity. However, this abstention from direct communication changed after the online threat escalation that followed the September conclusion that the specimen had been legally acquired by Baden-Württemberg. After they published a piece for a *Nature* journal in November (Cisneros *et al.* 2021), they sent a copy to the Minister of Science and Technology for Baden-Württemberg. After a month, the Minister, Theresia Bauer, personally replied, directly liaising with Ghilardi and "promising to investigate the case and take action against those responsible" (Cisneros 2023). This is curious phrasing for a minister, seemingly either prejudging the outcome and suggesting more about appeasement to stop the hate posters, than genuine investigation or standing by the staff that she had responsibility for, so recently exonerated by her department's investigation and is consistent with newspaper reporting from the time that spoke of direct dialogue with self-appointed non-representatives (Jehle 2022b). The character of the subsequent 're'investigation was markedly different from the initial phase, with gagging orders in place for staff to prevent them from discussing the matter with anyone (Kinkel 2022a; Jehle 2022b) and a deliberate policy of selective evidence review: in this regard, they refused to accept the documentation and testimony of the importer – in other words, they ignored the only possible source of evidence

of the actual arrival date for the specimens in Germany. Kinkel noted that neither the 2007 UNESCO deadline nor the legality of the import appeared to matter to the activists, and the terms of this new phase of the Ministry's enquiry appeared to align with this, their more restricted evidence gathering enabling them to conclude that the specimen's arrival 'remained unclear' (Jehle 2022b; Kinkel 2022b).

In March 2022, a Royal Society journal published a piece that discussed the *Ubirajara* case as part of a review of the last 30 years of publications on fossils from two case study areas, one in Mexico and one in Brazil (Cisneros *et al.* 2022). The authorship included the organisers of the online campaign and, unlike other approaches to material ending up in collections outwith the originating territory, there was a greater emphasis on publications over the preceding thirty years, rather than historical collection holdings, which had the effect of removing the United States from consideration as a primary historical offender (e.g. Raja *et al.* 2022). An unusual presumption that underlined part of the study, was that research publications that did not overtly state collection and export permits were automatically assumed to have not had them, despite this being a comparatively recent publishing consideration, with high impact journals such as *Nature* dismissing such absent documentation as recently as 2013 (N. Fraser pers. comm. 2013; Liston 2016a). As well as the two selected case study areas being sites that Frey had published on material from during his career, the thirty-year bracket for publications directly reflected Frey's postdoctoral career (Gramlich 2022; Jehle 2022a). Whether or not the parameters were circumscribed with that specific intention, they had the effect of focusing attention on German collections in general and demonizing Frey in a way that was consistent with the online campaign's narrative that the specimen had in some way been personally and deliberately stolen by him from Brazil (Figure 2; Kinkel, 2022c).

One of the aspects examined within the constrained parameters of the Cisneros *et al.* (2022) piece, was the degree to which local scientists were on the authorship of material from the two case study areas, their assessment showing that 24% and 34% of the publications over the 30-year period had no local authors for the Mexican and Brazilian case study areas, respectively. Although no Brazilian palaeontologist featured on the final authorship list, it is worth noting that for *Ubirajara*, the Brazilian palaeontologist who was scheduled to be a co-author on the description was Hebert Bruno Campos, a doctoral student at the Karlsruhe Institute of Technology. Campos had been endorsed as a candidate for a PhD by the CNPq (Conselho Nacional de Desenvolvimento Científico e

Tecnológico, the National Council of Scientific and Technological Development) in Brazil and although having readily agreed to participate, it was determined during his time in Karlsruhe that he lacked the basic qualifications that would have made him eligible for the PhD programme, so had to withdraw.

One aspect briefly dealt with by Cisneros *et al.* (2022) was the importance of returning holotypes as consistent with legislation or other agreements. This is not without its own problems, as experienced by the Western Australia Museum in partnership with the Natural History Museum (London), where there is an unwillingness by a partner organization to comply with either the word or the spirit of such an agreement (Long 2002) or even reply to formal communications on the subject (Long pers. comm. 2023). But this was a particularly relevant consideration in the case of *Ubirajara*: as outlined by Kuhn *et al.* (2023), regardless of its date of arrival in Germany, *Ubirajara* fell under the requirement to be returned when it became a holotype. However, with the retraction of the manuscript prior to full publication, it would appear that that requirement no longer stands.

The campaign organisers used the Royal Society piece to laud their own online campaign as a metric for activism and engagement in defence of scientific ethics, without using the opportunity to either take any responsibility for, or distance themselves from, the associated racism and threats of violence that had been a part of the online campaign. Regardless of whether it was planned, this failure to reject or even acknowledge the aggression of their own online campaign while it appeared to align with their objectives, is a dangerous reticence in terms of tacitly endorsing such tactics on social media platforms such as Twitter (Haberman 2021; Karni and Haberman 2021).

Consequences and motivations: The online campaign

By April 2023, the specimen was no closer to being repatriated than it was in April 2021, notwithstanding a commitment from the Baden-Württemberg state, which it seems would have been the likely result of a request from SMNK to do so. However, one critical difference between the top-down decision from the Ministry and the bottom-up proposal from the state museum, is the intended destination of the specimen: whereas the Frey/Kellner proposal was for the specimen to reach the Cariri Museum, the Bauer proposal identified the Rio de Janeiro Museum as the destination. When this news came out, there was fresh online outrage with new hashtags referencing 'internal colonialism' and '*Ubirajara* belongs to Cariri' on 19th July 2022 (Rodrigues 2023), Kellner ironically being

attacked for this, despite his endorsement of the original plan for the specimen to go to Cariri. This alteration of the final destination might be the only tangible effect on the repatriation process that the online campaign has had.

Beyond the repatriation itself, there have been much broader and more long-lasting effects, perhaps globally. As noted by the former (1978-2001) director of the SMNK, Siegfried Rietschel, the decision to repatriate the fossil as a result of or in response to coercion sets a dangerous precedent for how such disputes might be approached in the future (Kinkel 2022a). Elizabeth Chacón Baca, president of the Mexican Society of Paleontology, similarly expresses a preference for more civil discourse in such situations: “Scientific interest must prevail...we must protect and defend [our heritage], but always with a tone of open dialogue” (Lenharo and Rodrigues 2022a).

The othering or exclusion of foreign scientists by the online campaign has effectively eroded trust on both sides, with particularly severe consequences in the widespread mistrust and suspicion generated of Brazilian students and researchers already working in and with international institutions. One of the responses to this effect was the coming together of a liaison group of German and Brazilian palaeontologists to work through issues together, resolving disputes over institutional holdings. Members of this group present at the EAVP AGM in 2022 in Benvento expressed concerns about their identities becoming public as well as reporting their fears of death threats, in the wake of the aggression of the online *Ubirajara* campaign. In a similar way to Hsu’s (2023) contention that many of the online threats to scientists have come as a result of the lockdowns and frustration associated with the COVID pandemic, the primary contact for the German/Brazilian liaison group suggested that much of the unusual intensity of the verbal aggression and violence from the online #UbirajarabelongstoBR campaign might well have been a similarly inflamed response to the circumstances of lockdown (Luthardt pers. comm. 2022).

Online harassment of both individuals and organisations that did not overtly back the online campaign also occurred. During the Association’s annual conference, Ghilardi targeted the EAVP Twitter account (28/6/2022). As attempts to provoke a public response on Twitter often prove less than sincere attempts at genuine engagement, the performative nature of the medium often rendering them, for all intents and purposes, an invitation to a public ‘fight’ (Haidt 2022; Merriam-Webster 2023), both the Communications Officer and Ethics Officer of the EAVP requested a direct dialogue instead, being targeted by Ghilardi for harassment on Twitter as a result of this apparently unreasonable request, as another manifestation

of academic bullying (Taüber and Mahmoudi 2022).

Liston (2014: p. 696) noted the “destructive...use of specimens by those individuals who espouse them as some manifestation of cultural expression, and thus reduce those specimens to political pawns”, which both Ghilardi/Cisneros and Bauer appear to have been guilty of in different ways, although commonly damaging the palaeontological community by legitimising threats and attacks on collection managers as a means of achieving a political end. Yet despite the dangers of palaeontological specimens being utilised in such a way, positioning oneself as the head of a social media campaign does come with some opportunities, whether financial (Van den Bulck and Hyzen 2020; Smith 2022) as a form of monetization, or simply to increase one’s profile in your given professional field (sometimes at the direct expense of others as per Taüber and Mahmoudi 2022). In this scenario, delaying resolution presents more opportunities, especially if it is more important that a resolution only be achieved if it clearly involves you being publicly seen as a part of any solution: as Bancroft (2002) notes, controlling individuals can be differentiated from others involved in a campaign by the way that they set out to seek praise and attention, rather than by endeavouring to help make a difference or confront an injustice, thus dominating the conversation (Bancroft 2002). A social media campaign can thus function as a political vehicle, wherein achieving the stated objective can be less important than indulging in performative behaviour to ensure that one is perceived as being a part of the solution. In this regard, as much as the activities of Minister Bauer or Messrs Ghilardi and Cisneros may have torpedoed the original negotiations – if not actually affecting the original plan to repatriate the specimen (beyond the particular destination museum) to Brazil, they nonetheless benefited from their personal profiles being elevated. In Bauer’s case, her intervention took place as part of the lead-up to her run for the political office of Mayor of Heidelberg (Jehle 2022b). In their turn, Ghilardi and Cisneros obtained a status as interview targets for articles (criticized as “rather uncritically questioning”; Jehle 2022b) that was unusual for individuals that were not elected representatives, which is not trivial, given that media presence and social media impact increasingly feature as prominent employment criteria for researchers. There was also a converse, somewhat disturbing ‘no platforming’ trend, in terms of the difficulty experienced by some palaeontologists in getting articles on *Ubirajara* published, if they ran counter to the online narrative that had been primarily established by Ghilardi and Cisneros, with groups led by Steyer, Vuillot and others being denied the ‘right to reply’ to coverage in a variety of journal articles that had in themselves defamed palaeontologists (Steyer pers. comm. 2022), articles lat-

er characterised as having been unusually unquestioning and ‘uncritical’ (Jehle 2022b). This selective reporting was also experienced by organisations that were approached for comment on the situation, where the commentary provided did not fit the narrative. When approached for comment on the *Ubirajara* situation for an article (Ortega 2021a), the EAVP Executive noted their reluctance to participate in the historical pattern of hypocritical scientific journalism by major publishers (Liston and You 2015; Liston 2018b) but also cautioned against mistaking scientific factionalism for scientific colonialism (although they can appear similar in terms of their criticisms, but propose subtly different solutions, see Supplement A), an interpretation that was echoed with regard to *Ubirajara* almost a year later (Ortega 2022). Scientific factionalism can manifest in a range of actions, from passively omitting or excluding publications by non-preferred groups (thus belittling and diminishing the work of other researchers) to more direct career advancement strategies such as sabotage of others through means of false statements, mobbing, abuse and other forms of bullying behaviour (Taüber and Mahmoudi 2022).

Exit the spearlord?: On the role and responsibilities of governments

On 19th July 2022, the cabinet of the Ministry of Science in Baden-Württemberg approved a proposal from Minister Theresia Bauer to return the *Ubirajara* fossil to Brazil. More than enacting well-worded and non-anthropocentric legislation (Liston 2018a), government interest is critical in any repatriation as a formal transfer of heritage material between states. At the workshop on ‘Global Perspectives in Ethics’ at the Society of Vertebrate Paleontology’s 78th annual meeting, held in Albuquerque, New Mexico, on 16th October 2018, Bolor Minjin noted that it was only through her pre-existing personal contact with a cabinet minister, that the Mongolian Government was both willing and able to act swiftly in interceding in the auction of a tarbosaur specimen in the United States (Minjin 2018). In contrast, the Brazilian Government has seemed disinterested in the dispute over *Ubirajara*, much of this having unfolded during the premiership of Jair Bolsonaro, when even the Brazilian Society of Palaeontology appeared content to leave the repatriation campaign to the unelected online representatives. This is set to change, as the recent elections that replaced Bolsonaro propelled a governor supportive of the Cariri Museum into a senatorial position for Ceará as well as becoming Minister of State for Education (Da Silva 2023). Active and supportive political figures are not only important for promoting repatriation of material between institutions (Netto 2022), but also for making the case for oversight so that material does not leave territories illegally in the first

place. One of the consequences for any state that adopts legislation that restricts or prohibits export of fossil material, is that they have an attendant responsibility to provide government financial support to resource that position by being prepared to send and receive enquiries and requests from other state governments, as states are unlikely to respond to enquiries from non-state representatives, notwithstanding Minister Bauer’s reported actions. Furthermore, this also involves training customs officials (e.g. in the USA; Foss pers. comm. 2023) to enable them to adequately police their ports of exit (Liston 2013). The alternative is that as a state they become reliant on other states not only being well-versed in the laws of many others for enacting their policies, but also in enforcing these policies on their behalf – which very few states are in a financial position to do, regardless of whether or not they have the inclination. In the end, as has been noted elsewhere (Liston and You 2015), it is comparatively meaningless for states to have legislation demanding that their natural heritage be protected if the government in question has no interest in the subject and resources it according to that lack of interest. Palaeontologists need to actively lobby in order for governments to invest in the infrastructure and support the science for material to be returned, otherwise they are passively complicit in illegal exports of their fossil heritage, regardless of what laws are on their statute books and for how long. As individual states are rarely effective in promoting their palaeontological heritage regulations externally, promulgation of state legislation in fora of palaeontological colleagues around the world is a key role that palaeontologists have to take on. Refusal to engage in this responsibility is tantamount to toxic or even xenophobic isolationism with its tendencies towards academics having exclusive access to national material (Liston 2014), making as it does a fertile ground for those who want pretexts to be able to profess ignorance of the law in a ‘foreign land’ (see Cisneros *et al.* 2022) and constitutes a form of reactionary chauvinism likely to lead to further entrenching and xenophobia, obstructing future collaborations.

Conclusions: Recognition of the past and hope for the future

Although the Trump presidency may have had little direct impact on palaeontology (but see Polly 2022), it saw a legitimisation by a significant world leader of aggressive, bullying and intimidating behaviour that was already becoming normalised on social media, in a way that had a direct impact on the field (Haidt 2022). As such, it can be hard to recall that these fora were not always such hostile environments, even prior to the effect suggested earlier, arising from COVID-enforced isolation. Looking through the critical prism of present judgment to under-

stand what people did in the past is a mistake in novice historians: as Hartley (1953) put it, “the past is a foreign country: they do things differently there” (Hartley 1953: p. 1), echoed by Elizabeth Chacón Baca, president of the Mexican Society of Paleontology, when she notes that it is important to acknowledge that ethical standards today are different from those of the past, even in Latin America (Lenharo and Rodrigues 2022b). Professional palaeontological societies have changed: the Palaeontological Association commissioned D. M. Martill (University of Portsmouth) to produce their ‘Fossils of the Santana and Crato Formations, Brazil’ Field Guide in 1996 (Martill 1996). Within two days of the in-press version of the *Ubirajara* manuscript, co-authored by Martill and one of his students, being pre-published online by *Cretaceous Research* in December 2020, the same Palaeontological Association cancelled the promotional event that they had organised for Martill’s newest field guide for them (his fifth, this time on Kimmeridge Clay fossils, Martill and Etches 2020) at their annual meeting. Journals have similarly changed: whereas ten years ago, when challenged on ethical issues of fossil provenance, a senior editor of *Nature* expressed the opinion that they did not care about the provenance of a fossil specimen, just as long as ‘the science was good’ (Barrett 2016), *Nature* has now followed the lead of *PLoS One* and the *Journal of Vertebrate Paleontology* in requiring collection and export permits for publication (Liston 2018b; Lenharo and Rodrigues 2022a; Stead and Hoch 2023).

The intervention of the online campaign and the actions of the Baden-Württemberg Minister do not appear to have materially advanced the repatriation of the *Ubirajara* specimen, although the participants in the online campaign (while arguably having violated German laws) have benefited from raised profiles within their field. However, the specimen’s scientific future remains shrouded; *Cretaceous Research*’s retraction of the paper 9 months after its ‘in press’ online pre-publication in December 2020 means that the name was not contained in a publication of record, so it falls. Indeed, the parameters of this case appear to have proved so unique that it is highly likely to cause a future refinement of the ICZN code (Caetano *et al.* 2023) although the guidance of the ICZN has been very much that specimens should not be renamed for ethical reasons, as these may be ephemeral (Ceriaco *et al.* 2023). There are further ethical considerations surrounding any possible future authorship of a repeated attempt at an original description of the specimen: aside from the ethical ‘clear water’ required by the promulgators of the campaign not personally benefiting through becoming a part of the authorship of any such document (which would be an extreme example of what is described in Täuber and Mahmoudi 2022), there is also the question of

how the work of the original authors is recognized, given that their original description can no longer be cited. This raises the question of whether the original authors should be automatically included as authors in any new description, notwithstanding that they might now be somewhat ambivalent regarding further involvement with this specimen.

It is good that *Ubirajara* is now back in Brazil, and I have little doubt that the monolithic collections of Santana material in institutions such as the American Museum of Natural History and elsewhere around the world will all one day find their way home. But it would probably be best that this development had occurred without the academic bullying, online intimidation, bomb and arson threats to a public museum of science and education, as happened with this particular specimen. Even if online aggression had no part in this specimen’s return, it would be good to ensure that it does not even manifest in a background role in any future situations. Science is not progressed by a rising cacophony of voices trying to out-slander – or out-libel – each other. Altering the practice of science by intimidation is more of a step back into the dark ages, than a step forward – and as much as the end may seem to justify the means at the time, it can often turn out that the means used can entirely delegitimise the most noble of ends.

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Appendix A, p494-495

This piece references material submitted by the EAVP Executive in response to journalist questions on behalf of *Science* for Ortega (2021a), the content of which was unused by the publisher but is included as an appendix on the following pages.



Dear Rodrigo Perez Ortega -

We should start by noting the remarkably short window of time accorded the EAVP to respond to your queries - especially given both the 4 day holiday weekend that your 'deadline' took place over (considering EU time zones we received your email after the last working day before holidays have finished, which meant that you effectively asked and wished a reply from your enquiry on holidays). As much as this may not have been deliberate on your part, we would strongly suggest that you utilise a longer lead-in time if you are actually serious in obtaining any considered answers to questions in the future.

Professor Frey has recused himself from this matter to allow us to make a statement unaffected by himself as an accused party.

The European Association of Vertebrate Palaeontologists has been a driver for the science of palaeontology globally in the consideration of ethical issues surrounding the legality of ownership, research, export etc. The Haarlem symposium hosted by EAVP in 2016 was the first of its kind (strongly advocated by Professor Frey when first proposed the preceding year in Opole), with other palaeontological organisations directly following this example, including the Society of Vertebrate Paleontology in 2018 and 2019 and the Palaeontological Association in 2020. As a result of the work on ethics, the EAVP's current Vice President was invited on to the SVP's Government Affairs Committee, which deals directly with such issues globally, and has been responsible for generating SVP's current policy on Myanmar amber and advising scientific journals to abide by a moratorium on publishing on such material, as well as establishing a working group on this issue.

Moreover, the EAVP is in the process of establishing ethical guidelines and a members' code of conduct, which the SVP is also currently working on. This is a process that began in 2019, with the results expected to be presented to be voted on at the next EAVP annual general meeting on July 8th, to be held online as a result of the current pandemic.

Due to data protection, we cannot inform third parties about whether individuals are members of the EAVP, thus, if you need this information, we suggest that you directly approach the individuals concerned.

Professor Frey has a distinguished record of engaging with academic communities in a number of countries, working not only to excavate material in collaboration with local groups but also to provide academic training for individuals to become PhD students in Germany while they work on their material (e.g. Mexico, Chile), and we note that this is the preferred model for such engagements, pioneered by himself. This engagement is the very antithesis of scientific colonialism, which is further reflected by the presentation given here (<https://www.youtube.com/watch?v=PnssaLktiXw&t=30s>), sponsored and hosted by another of the EAVP Executive.

From a museological point of view, it is far from unusual for specimens that are newly-discovered to have repository numbers assigned while the specimens are still under study in the laboratory and prior to their arrival in said repository, so it is important to remember that this is unexceptional, if not desirable for a museum that is yet to be opened. In terms of any specific allegations, the EAVP is unaware of the veracity of any of the claims of illegality made, and it would be inappropriate to comment without having access to any material substantiating the supposed allegations.

However, it is worth making the following points that often apply in more general circumstances. In palaeontology, newly-discovered specimens tend to be the most sought after, and feelings of professional envy and entitlement can often play a large part in motivating the criticism that is levelled at researchers. This can be an issue both across borders and within any given country, where factions can exist and accusations are driven more by a perceived need to attempt to discredit other academic groups of researchers as a way of removing competition. None of these factors has anything to do with ethical or legal disputes, as much as professional jealousy, and should not be considered as anything other, until demonstrable facts emerge to support the counter view.

On a similar note of competition, the publishing industry, as a long-term uncritical partner of scientifically-colonial activities, has a great deal of responsibility for problems surrounding contentions over specimens. We have noted that in the recent past "opponent" publisher groups - such as Science and Nature - have used such publications as opportunities to attack their primary rival (see Science's 'Four-legged fossil snake' of 2015 and Nature's response), yet both publishers have been comfortable with publishing on specimens despite the presence of any questions surrounding the legality of material being removed from another country. The vested interests reflected in these selective attacks undermine the standpoint that they are intended to represent. Chasing exceptional fossils is something that both publishers have engaged in, with a willingness to criticise their competition, yet turn a conveniently blind eye to some of their own publications.

As such, EAVP is reluctant to engage in commentaries that are driven more by a commercial publishing agenda than any genuine desire to improve equitable access to palaeontological science throughout the world.

Yours sincerely –

EAVP Executive Committee

Jeff Liston (EAVP Vice president)

Koen Stein (EAVP Treasurer)

Soledad De Esteban-Trivigno (EAVP Secretary)