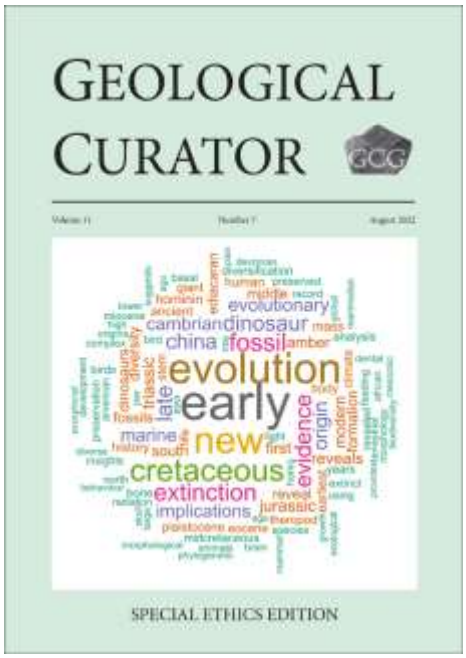

Creative compliance, neutralization techniques, and palaeontological ethics

This paper uses the sociological and criminological concepts of creative compliance and techniques of neutralization to consider reactions to ongoing ethical issues within the paleontological community. Using the ethical and legal issues concerning the study of fossil-bearing amber from Myanmar, and drawing upon interviews from palaeontologists conducted by the TRANSFORM project, this paper argues that palaeontological research has a strong social component which should not only be reflected in the ethical approval and oversight of palaeontological projects, but also reflected in the teaching of palaeontology at university level.

This article should be cited as:

Yates, Donna (2022). Creative compliance, neutralization techniques, and palaeontological ethics. *The Geological Curator.* 11 (7), pp. 428-435. https://doi.org/10.55468/GC1458

Creative compliance, neutralization techniques, and palaeontological ethics

by Donna Yates[1]

[1]Associate Professor, Criminal Law and Criminology, Maastricht University, P.O. Box 616, 6200MD, Maastricht, The Netherlands, https://orcid.org/0000-0002-9936-6461, d.yates@maastrichtuniversity.nl

Received January 27 2022. Accepted 29 July 2022.

This paper uses the sociological and criminological concepts of creative compliance and techniques of neutralization to consider reactions to ongoing ethical issues within the paleontological community. Using the ethical and legal issues concerning the study of fossil-bearing amber from Myanmar, and drawing upon interviews from palaeontologists conducted by the TRANSFORM project, this paper argues that palaeontological research has a strong social component which should not only be reflected in the ethical approval and oversight of palaeontological projects, but also reflected in the teaching of palaeontology at university level.

Yates, D. 2022. Creative compliance, neutralization techniques, and palaeontological ethics. T*he Geological Curator* **11** (7): 428-435. https://doi.org/10.55468/GC1458

Criminology, palaeontology, ethics

The word criminology often evokes detailed but inaccurate ideas of disciplinary methods and focus in the minds of most people. It is, at its core, a discipline focused not on forensics (CSI is our Jurassic Park when it comes to public confusion about what we do), but rather the sociological and anthropological investigation into why people behave the way that they do, with a strong focus on why people break rules. As such, criminological models are not only useful for studying people that we would easily define as criminals, they are useful for considering approaches and responses to ethical standards among any number of types of groups. Applying criminological thinking to disciplinary ethics in academic palaeontology specifically is a way to consider the structure of patterns of behaviour, evaluate those patterns within the context of ethical and legal norms, and determine if actions need to be taken to disrupt behaviours that are found to be unethical.

Using the ongoing ethical and legal issues related to the study of amber with fossil inclusions originating from Myanmar as a basis for contextualizing discussion, in this paper I demonstrate how the criminological ideas of creative compliance and techniques of neutralization (specifically the practice of appealing to higher loyalties) can manifest within academic palaeontology. I conclude with a discussion of what these manifestations mean for the continued development of ethical frameworks for disciplinary practice.

The amber situation

Details of the controversy concerning the use of amber from Myanmar in palaeontological research have been covered in depth by a number of articles in academia and popular press and do not need to be repeated here (e.g. New Scientist 2019; Sokol 2019; Haug *et al.* 2020; Joel 2020; Peretti Museum Foundation 2020; Rayfield *et al.* 2020). However, there are some aspects of the issue that deserve a review so that the criminological concepts presented in the later portions of this paper make sense. While there has been significant debate about the role that human rights violations at source should play in disciplinary acceptance of research based on and museum accession of amber from Myanmar, the exact legal status of this material has received less attention. Within the discussion presented here, Myanmar's laws related to fossil extraction and export become a touchstone of human behaviour. The selective following and disregarding of this law on the part of palaeontologists, and how that manifests, can be seen as a representation of the gaps that existing disciplinary ethical norms do not fill.

Myanmar defined "any fossil remains of man or of animal" as "antique objects" or "objects of archaeological interest" within the Antiquities Act of 1957. It is quite common to address archaeological and palaeontological remains in the same piece of legislation; this does not represent a lack of understanding about the nature of palaeontological material, but rather relates to similarities in the social foundation for the need to protect these objects in the first place. As objects "of archaeological interest" (however much some palaeontologists and archaeologists would cringe at such a classification), fossils cannot be exported from Myanmar without specific permits from the country's authorities, which at least since the 2015 Myanmar Protection of Antique Objects Law, should only be granted for temporary display or temporary scientific preservation work within an academic or museum setting. Not only are fossils destined for private sale not exportable under Myanmar's laws, but knowingly searching for fossils without a permit is an offence, and all incidental discoveries of fossils must be reported to the authorities. Where the situation becomes murkier is how Myanmar legally defines a gemstone. According to Myanmar's 1995 Gemstone Law (updated in 2019, but with no significant

changes related to this discussion), amber is considered to be a gemstone. As a gemstone, amber is automatically owned by the state; however, the state grants permits for the extraction, processing, and commercialization of the material, including for export and sale abroad. The goal of this law is explicitly to support a legal trade in gemstones. While amber is mentioned on the law's list of gemstones, no special provisions are mentioned for it. The possibility of the presence of fossils within the amber is unacknowledged, meaning that the exact relationship between the Gemstone Law and the Protection of Antique Objects Law remains unaddressed.

This is significant because several recent high-profile studies of fossils within amber from Myanmar cite the Gemstone Law as proof that the export of their objects of study did not violate the law (e.g. Xing *et al.* 2016), an assertion that has been used to legitimatize academic publication. This line of reasoning goes that as long as the fossil-bearing amber was exported legally as amber, then the law has been complied with. However, this is a dangerous argument to make. There is no indication that the Gemstone Law supersedes the Antique Objects Law, and nothing within the Antique Objects Law which indicates that fossil inclusions within amber are an exception to the rule. As fossils from Myanmar, the fossils within amber appear to be subject to the same export restrictions as other fossils; it seems that Myanmar amber with fossil inclusions that are currently outside of the country left in violation of the law. This is an issue that must be defined by a Myanmar court, but those using the Gemstone Law argument to export, purchase and study Myanmar fossils in amber run the risk of being the target of that court.

If the export of amber with fossil inclusions from Myanmar is for consumers of that material a risky grey area within the law at best, why do we see researchers asserting that there is no legal issue? Where does this Gemstone Law assertion come from (sociologically speaking) and why do some palaeontologists believe in it? To consider those questions, we come to our first criminological concept.

Creative compliance

It is clear that by enacting the 1957 Myanmar Antiquities Act, Myanmar's intent was to prevent fossils from leaving the country permanently, while allowing for the possibility of controlled temporary export for scientific study abroad. This applies not just to some fossils, but all fossils; fossils within amber have never been presented as an exception to this goal. That the amber itself happens to be regulated in a different way than the fossils that the amber contains might charitably be called a legal loophole. While it is debatable how ambiguous Myanmar's laws really are on the matter, some uncertainty and thus some opportunity is created by the two pieces of legislation. While this uncertainty does not alter the intent of the legal framework for fossil protection, the concept of creative compliance helps to explain how the opportunity that is created is used and perhaps abused.

McBarnet and Whelan (1991) have defined "creative compliance" as "using the law to escape legal control without actually violating legal rules" which "emphasised the two-sided nature of law, as a means of controlling and a means of escaping control". Creative compliance is the use of legal literalism "in a manipulative way to circumvent or undermine the purpose of regulation" (McBarnet and Whelan 1991). Through creative compliance, one violates the spirit and purpose of a law while still complying with the letter of the law. It "thrives on a narrow legalistic approach to rules and legal control, on a formalistic conception of law" (McBarnet and Whelan 1991). Creative compliance is often used to benefit the creative complier, either monetarily or otherwise, and is usually used knowingly: the creative complier may take pride in getting around what they know to be the intent of the law. It is clear that the intent of Myanmar's fossil law is to prevent all fossils from being exported from Myanmar in any situation except authorised and controlled temporary export for scientific purposes. This is something known (or should be known) to all palaeontologists engaging with fossil-bearing amber from Myanmar. However, the inclusion of amber within the Gemstone Law provides a "narrow legalistic" pathway for creative compliance. Arguing that fossil-bearing amber is amber and that the Gemstone Law allows for the export of amber while ignoring the obvious contradiction inherent in the intent of the Antiquities Act is an undoubtedly 'creative' way to achieve the personal goal of obtaining Myanmar amber fossils for purchase and study. The appearance of legal compliance apparently allows for publication in top journals, despite the manipulation of the intent of both the Gemstone Law and the Antiquities Act.

It is unreasonable to expect every palaeontologist to become a lawyer and to have the ability to evaluate the contradictions within corners of local law. It is, however, reasonable to expect every palaeontologist to know the goals and intent of the local law that governs their research. When the intent of local law is clearly to prevent unauthorized extraction, export and commercialization of fossil material, the ethical position is to comply with the intent of that law, even when presented with a way to manipulate a loophole. If a loophole is found or is being exploited, it is the role of the ethical palaeontologist to raise awareness about it both within their host country and among colleagues in the wider discipline.

Neutralization, the appeal to higher loyalties

Closing creative compliance loopholes may lead to the closing of certain easy (or easier) pathways for scientists

to access specimens for study. The social significance that the very idea of scientific study has within the discipline and within our wider society leads to the next criminological concept to be discussed: techniques of neutralization. Put simply, techniques of neutralization are internal narratives that people use to justify their deviant behaviour and that may allow them to commit deviant acts in the first place. It is through employing neutralization techniques that a professional palaeontologist can study Myanmar amber that they know to be legally or ethically dubious, without losing their identity as a palaeontologist or a law-abider.

While conducting research among youth offenders in the United States in the 1950s, criminologists Gresham Sykes and David Matza (1957) noticed that, in contrast to what other criminologists had argued, the youths in question were not part of some sort of criminal subculture that defined bad acts as good, rather they were part of regular society like everyone else and felt guilty about their crimes. To deal with the psychological pressures of committing crimes, the youths had developed a number of internal narratives to neutralize their actions: stories that they told themselves which justified their actions and allowed them not to think of themselves as criminals. Sykes and Matza (1957) were able to classify these justifications into five "neutralization techniques", the employment of which allowed the individual to be "freed to engage in delinquency without serious damage to [their] self-image". These are Denial of Responsibility, Denial of Injury, Denial of the Victim, Condemnation of the Condemners, and Appeal to Higher Loyalties.

While each of these neutralization techniques are interesting and, arguably, can be considered in light of ethical vs. unethical behaviour within any discipline, including palaeontology, in the interest of space this paper will focus on the last technique: Appeal to Higher Loyalties. Sykes and Matza (1957) defined this as a situation where an offender was aware of rules and perhaps even considered them to be right, but thought that something greater or more important forced them to break those rules. The example given by Sykes and Matza was loyalty to friends or obligation to family, but that is not the only possibility. The Appeal to Higher Loyalties then is defined by an offender who feels themself to be in an ethical, moral, or social quandary; that they are "caught up in a dilemma that must be resolved, unfortunately, at the cost of violating the law" or other rules or norms (Sykes and Matza 1957). Bringing this back to palaeontology, perhaps we can better understand how some scientists justify the study of illicit or illegally excavated or exported palaeontological material by considering that act through the lens of an Appeal to Higher Loyalties. Science, itself, becomes the higher loyalty that is appealed to in this formulation.

In interviews with palaeontologists conducted as part of the TRANSFORM project[1], one of the consistent justifications suggested for studying questionable palaeontological material is that science exists beyond the bounds of human social relationships. While the law or ethical guidelines are human constructs, science is a quest for knowledge about the physical and natural world independent of human issues. Within this argument, that fossils are subject to laws or disputes does not negate their potential to inform and advance science and, as a scientist, it is one's duty to advance science. Ignoring a specimen simply because it was illegally excavated and trafficked becomes a violation of loyalty to the scientific endeavour. While a palaeontologist may be aware of the law and does not wish to break it, their higher loyalty to science mandates it. Appealing to the validity of that higher loyalty allows them to violate the rules while retaining their identity as an upstanding, respectable professional rather than as a criminal.

The appeal of higher loyalties may be immediately recognisable to many. Such thinking is accepted and even promoted among many members of any scientific community, where sacrificing for science in many different ways is the norm, and there is often strong social pressure to 'look the other way' when legal and ethical violations lead to major scientific breakthroughs. To repeat Sykes and Matza (1957) above, this is a situation where a palaeontologist might consider themself "caught up in a dilemma that must be resolved, unfortunately, at the cost of violating" an ethical code. This is the point where ethical codes have their most limited effect: the point where a violation of ethics preserves one's disciplinary self-identity and conforming with ethical codes leads to a violation of disciplinary self-identity.

However, the perception that science exists beyond the social sphere is a partial fallacy. People do science, scientific research is conducted and scientific discoveries are made within the social constructs, including the rules and laws, that govern our human lives. With regard to studying illicit or illegal specimens, the "for the good of science" argument is an effective neutralizer of violations; seen in a more critical light, "for the good of science" is also predominantly "for the good of the particular scientist". The simple fact that many palaeontologists would find engaging with certain material ethically or legally impossible concentrates the professional benefits from that material in the hands of the neutralizing few.

[1]Trafficking Transformations (TRANSFORM), is a European Research Council-funded project that is focused on the role that objects play in criminal networks, with a particular focus on palaeontological objects. All interviews for this project were conducted with informed consent, in accordance with the ethical guidelines of and with the ethical approval of the European Research Council and the Maastricht University Ethics Review Committee Inner City faculties (ERCIC).

Benefits such as publications in major journals, career advancement and acclaim for one's work are potential rewards for someone who can neutralize ethical or legal violations and maintain their professional identity. At times these benefits are aggressively protected by those who enjoy them. Denouncers can be gaslit through assertions that scientific good must prevail over base social concerns. Alternative legal and ethical pathways to specimens for study are not explored because "for the good of science" already exempts unethical or illegal behaviour that is easier than other forms of access.

Disciplinary ethics

Although in this paper the legal status of fossils in Myanmar amber is used to highlight points where criminological constructs could help clarify ethical discussions within palaeontology, this is not the only case where creative compliance and neutralization techniques are observable. Several palaeontologists interviewed during the TRANSFORM project expressed knowledge of people skirting the edges of local law, exploiting loopholes and essentially violating the spirit of the law for their own professional gain in contexts around the world. This was regularly accompanied by, on the part of the creatively complying scientists, an appeal to the higher loyalty "for the good of science", which appears to effectively neutralize the actions both within the palaeontologist's mind, and within certain circles within the discipline.

Both creative compliance and neutralization via appeal to higher loyalties are possible within this field due to a de-emphasis of the social contexts that contain palaeontological research. The local law feels ignorable or malleable because the context within which the law was developed and the goals that the law aims to achieve are not effectively taught, considered or discussed at a disciplinary level, thus they are not respected. In contrast, the disciplinary identity of being a scientist, and the validity of the "for the good of science" argument is effectively taught, if indirectly, through the social structures of the discipline creating a pathway for violations of the law and ethics to be neutralized.

There are strong indications, however, that this is not a sustainable or positive position for palaeontology to maintain. A current strain of research in the discipline emphasizes the ongoing postcolonial issues inherent in palaeontology which are exacerbated by racial biases and are forcing a continued framework of dominance on lower income countries and preventing the effective development of local palaeontological research (Raja *et al.* 2020, 2022; Elbein 2021). Calls for a fairer, more equitable, more representative palaeontology are being made, and those calls are lauded by many. Furthermore, ethical and legal violations on the part of palaeontologists are regularly covered in the international press. While many of these PR nightmares follow criticism after the publication of a questionable specimen in a major journal and the social benefits of having made a major discovery are dulled by the critique, someone's CV has already been enhanced by the violation. This may be the palaeontology we currently have, but it is not the palaeontology that many want. These issues evidence a need for certain ethical developments within the discipline of palaeontology, particularly within the teaching of ethics to students, ethical review for the granting of funding for palaeontological research, and the use of guidelines for publishing of palaeontological material.

Teaching ethics

From interviews with palaeontologists who are based in academic institutions in higher income countries, it has become clear that "ethics and law" are not a focus within undergraduate or postgraduate palaeontological education. While individuals did make a point of having discussions about ethics and law with their students, often within the context of fieldwork, some expressed that they felt slightly underqualified to do so themselves as they had not been exposed to teaching on the subjects. This lack of formal teaching of ethics in palaeontology sits in sharp contrast to the situation in archaeology, a discipline that has significant structural parallels to palaeontology and, as previously discussed, is often covered by the same law. Variations on "Archaeological Ethics and Law" have been offered as stand-alone undergraduate courses in multiple countries for more than 20 years, and related topics are touched upon in many other undergraduate archaeological models. Ethics, law and policy may comprise a full third of some archaeology, museum or heritage studies Master's degree programmes.

At the most basic level, most archaeologists are exposed to UNESCO's 1970 Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property during the course of their undergraduate education and are often expected to read and discuss it[2]. Palaeontological students are not, despite the fact that the convention explicitly applies to "objects of palaeontological interest", referring to those in Article 1a before "products of archaeological excavations" in Article 1c. If the first type of material that the UNESCO convention is meant to protect is palaeontological material, palaeontology undergraduates should know this. Although archaeology certainly has significant problems which it does not always adequately address, the discipline has made significant strides in the teaching of ethics

[2]The 1970 UNESCO convention has been ratified by 141 states at the time of writing, including every country that boasts a research-intensive palaeontological university programme, see https://en.unesco.org/sites/default/files/liste_etats_partis_convention_1970_en.pdf

and law to students. Palaeontologists wishing to develop this area in undergraduate and postgraduate teaching may find help and an enthusiastic will to collaborate from their archaeologist colleagues. Co-taught courses on the topic may be possible as, in many cases, this concerns the same law and nearly the same ethical issues which are common to field disciplines.

Funding and ethical review

The teaching of an understanding of the law and ethical behaviour to students is an investment in the discipline's future, but it is a long-term investment. Changing hearts and minds, as well as entrenched disciplinary habits, to effect more immediate change may not be possible. When voluntary compliance is unlikely but ethical and legal behaviour is needed, people cannot be given a choice. While it is usual within the remit of professional organisations to extensively sanction bad behaviour on the part of a member, and to do so may open them up to legal troubles that they are ill prepared for, good behaviour can be established as a requirement for accessing funding for continued research. Making ethical monitoring and review an integral part of grant application and reporting processes can force at least a degree of compliance among those in the discipline who are unused to considering these issues.

Most universities and funding bodies require some ethical review before research is conducted. However, the level and intensity of this review differs significantly between disciplines. Palaeontological research, which does not normally consider humans to be subjects of study, tends to be immediately classified as "low risk" among university ethical boards, and palaeontological ethics submissions are then concerned with important, but insufficient, topics such as continued sample access, data protection and field safety, with hopefully at least some consideration of legality. The ethical forms that the TRANSFORM Project had to fill out to gain approval from three different ethical boards (as well as appoint an independent ethical advisor!) simply to interview academic palaeontologists for this research are orders of magnitude longer than those that many palaeontologists must fill out to conduct research on material from a socially and ethically fraught context, such as Myanmar. Indeed, if the material is already out of Myanmar at the point of study, palaeontological research may require no ethical approval at all.

This certainly saves palaeontologists time. There are whole weeks spent on researching, considering and writing what a project's ethical stance is within a host of possible situations, but this process gives researchers a nuanced understanding of the social context and implications of research beyond simple contributions to the field. To use one example that came up in the ethics applications related to TRANSFORM: what should a palaeontologist do if they observe people in their field location violating the law and stealing fossils? Do they know if local penalties for such violations are unduly harsh and if reporting the crimes will lead to a threat to local community cohesion or relations between the community and the project? Do they know if local law compels the palaeontologist to report crime (so-called "mandatory reporting" laws), meaning that if they say nothing, they too are breaking the law? Are these violations directly related to the presence of palaeontologists within the community? Researchers who have undertaken a socially-focused ethical review process are in a much stronger position to navigate such situations effectively. Thinking through issues like this before they happen allows researchers to go into the field confident and prepared. The help of an interested ethics board and the wider academic community may prevent disasters from happening.

The increased incorporation of social considerations into the ethical approval processes for funded palaeontological projects is, then, the most immediate way to bring about compliance with laws and the desired disciplinary ethical norms. This can be done at a university level by palaeontologists volunteering to sit on ethical approval boards and mandating high levels of ethical scrutiny for palaeontological projects: take a look at the paperwork that your sociologist colleagues must fill out and go from there. At a higher level, professional societies might consider creating ethical review boards for palaeontological project leaders who wish for a higher level of ethical scrutiny or guidance than their university, museum or research institute can offer. Projects could be submitted to such professional review boards with an eye toward appearing more attractive to both funders and to local governments and communities in field locations who are rightly wary of the same old 'helicopter research' or 'parachute science' projects (Raja et al. 2022). Stronger ethical approval which takes into account local needs might mean one is more likely to receive a permit for field research. All told, we must stop thinking about research ethics as only something that applies to protect human subjects and reframe the process as protecting the greater social contexts that our work is conducted within.

Ethical publication

The publication of illicit or illegal material is perhaps the most-discussed aspect of palaeontological ethics at present. This may be because publication inherently invites public scrutiny and via publication, ethical issues are exposed which might otherwise have gone undetected in the wider community. The fact that "publish or perish" is still the maxim that governs our academic lives, and that first author papers in top journals are still a requirement for career success, inspires criticism of the structures that allow research with questionable ethical or legal foundations to progress to publication. The frequency

in which major palaeontological finds published in the top journals are denounced as dubious, unethical, or illegal on social media and in the popular press is staggering. These papers are making it through peer review, and are making it past editorial boards, only to be annihilated on the front page of major news outlets following social media criticism. Yet, journals remain the gate keepers to the advancement of palaeontological careers. They have the ability to police behaviour in the field by preventing the publication of work with questionable ethical or legal foundations. However, they must do so without resorting to the type of formalism that inspires creative compliance. Many journals wishing to clarify what is and is not allowable for publication seek to define guidelines for authors to follow. It is thought that clearly defining what authors can or cannot do will make it easier to follow the rules. Further to this thinking, it is believed that if publishing guidelines are clearly enumerated, if the things that are considered to be bad are listed, this can serve as an easy way for editors and peer reviewers to ensure no violations have occurred: they become essentially a check list. However, such formalism, though well intentioned, is definitionally where creative compliance thrives. Consider a fictional journal which prohibits the publication of fossil material that was taken from its country of origin in violation of local law. An author wishing to publish on fossils within Myanmar amber might submit a statement citing legal export using the Gemstone Law loophole, and thus comply with the letter of the journal's ethical publishing guidelines. This would, however, violate the spirit of the journal's code (as well as the spirit of Myanmar's law), which is to prevent illicit material from being legitimized within the journal's pages. The editors and peer reviewers would need specialist knowledge of Myanmar's laws to know that there might be something questionable about the author's submission, a level of legal knowledge that is unreasonable to expect. Perhaps the appearance of questionable specimens in journals that promote exactly such a publishing prohibition on illegal material can be explained in this way.

A move away from formulaic, enumerated lists of publishing rules may actually ensure a greater degree of compliance with the spirit of the journal's rules. A system that embraces the fuzzier, context-specific ethical considerations of research is not necessarily weaker, nor is it more work for a journal or a peer reviewer, and it removes the bias of self-interest inherent in depending on author self-reporting. One example of how journals may move away from a formulaic approach to inspire greater compliance might be to embrace the type of project ethical review discussed in the previous subsection. By requiring that all research be subject to full ethical review before being published, the journal would inspire uptake of university or (the proposed) society ethical review boards in advance of research, while only really adding one new box to tick for themselves. Requiring projects then to submit their ethical approval paperwork would allow peer reviewers and the editorial board to check up on any issues raised within the review and publishing process. Requiring authors to state who granted them ethical approval for research would allow disciplinary oversight of those boards. And on that note, for the record, the approach to research ethics for this project was first approved by the University of Glasgow's College of Social Sciences Research Ethics Committee, then by Maastricht University's Ethics Review Committee Inner City Faculties (ERCIC), and ultimately was approved by the European Research Council's ethics committee; the appointed independent ethical advisor is Professor Rosaleen Duffy of the University of Sheffield.

Codes of ethics

If formalism invites creative compliance and if the most important parts of our ethical codes are those that may be the hardest for palaeontologists to follow, where does this leave the development of codes of disciplinary ethics? Codes of ethics do not always inspire people to behave ethically. The kinds of people who pay attention to ethical codes are probably already acting in an ethical manner (or have an interest in doing so), having internalized the social norms that inspired the ethical codes in the first place. The kinds of people who are likely to violate disciplinary ethical codes, may pay little attention to them or are able to employ neutralization techniques to justify violations. One might pose the question: who, exactly, ethical codes are for?

However, if we consider the development of ethical codes to be an ongoing disciplinary discussion that has no final result, we can create a space for ethical discourse within any discipline, including palaeontology. By constantly discussing the spirit and intent of palaeontological codes of ethics within the ever-changing social contexts in which palaeontological research is conducted, we can assure the adaptation of disciplinary norms to both new developments and old problems. Violations to the intent of the codes should be exposed and corrected. Modifications to our codes should be frequent and expected. The whole process should be public and communicated to students and early career researchers who should be integrated into the discussion. If we move away from the idea of ethical codes being a formalistic list of black and white rules to follow, we can see their potential for disciplinary influence while avoiding pathways towards creative compliance or neutralizing rule breaking.

Conclusions

In 2013, the author of this paper was conducting criminological fieldwork in a South American country where all fossils are defined as "cultural property" of the nation under the law. During informal discussions about fossil law with a scientist who would later go on to head a relat-

ed government directorate, the author noted how strange it was for natural objects such as fossils to be equated with archaeological artifacts and classified as "cultural" for the purposes of legal protection and preservation. The scientist responded that of course palaeontological material was "cultural", its value being in what it offers to the human society in the form of scientific intrigue and popular entertainment. What else, they asked, could a fossil possibly be?

The argument that fossils are social objects goes beyond the scope of this paper, however palaeontology is a social discipline. Although the objects of palaeontological study rest outside human creation, humans created and continue to create their meanings. Further, palaeontological research is conducted within the social world and the context and implications of that research reverberate in complicated social ways. That said, palaeontology has been slower than the more obviously social disciplines to fully consider these contexts and their implications. Ethical conversations that palaeontologists are starting to have now began in parallel disciplines decades ago.

This paper has outlined several frames for understanding palaeontological reactions to the aforementioned ethical conversations, but both creative compliance and neutralization techniques are just ways of investigating behaviour. They are the tools of an outsider looking in. If the goal is to effect ethical behaviour, however, the palaeontological community must continue to explore its own social impact. It must move away from a conception of research ethics as being for research focused ON people and towards a conception of research ethics as being for research that MATTERS to people. That certainly includes palaeontology.

Acknowledgements

This research was funded by the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (grant agreement n° 804851), and ethical approval for this research was granted by Maastricht University's Ethics Review Committee Inner City Faculties (ERCIC). I would like to thank the organisers, presenters and attendees of the Palaeoethics Workshop, part of the Palaeontological Association's 2020 Annual Meeting, for giving me a good excuse to consider this topic further and discuss it with the palaeontological community. I would also like to thank all palaeontologists who took their time to speak with me during the course of this research. I can't say who you are, that'd be unethical, but I appreciate your insight and expertise.

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