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Protecting a Broken Window: Vandalism and Security at Rural Rock Art Sites

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The majority of the ancient rock art sites of the U.S. Southwest are located in rural locations that are difficult to monitor or police. These sites seem to exert a pull on humans, an attraction that not only provokes curiosity and wonder but also what can be classed as destructive responses or vandalism. Many crime control methods for reducing vandalism are based on traditional theories such as defensible space and broken window theory. In the case of rock art, however, these methods do not yield expected results and in some cases are even detrimental. Rural crime, including rural vandalism, as a whole is marginalized in criminology, which has been dominated by urban-focused approaches and theories. In the case of rock art, considering how security is approached and maintained ultimately leads to questions about human–object relationships with regards to crime and about object agency. By focusing on the policing challenges of one particular type of rural vandalism, we hope to contribute to the discussion of vandalism in rural spaces. **Key Words: broken windows theory, graffiti, heritage crime, rock art, rural crime, vandalism.**

Rock art sites of the U.S. Southwest are often located in very rural locations that are on or beyond the periphery of contemporary human activity. Rock art, images carved, painted, or scratched onto stone surfaces, is a physical testament to more than 10,000 years of history. It retains an important place within contemporary Indigenous religion and a salience that transcends cultures. Distant and inaccessible, these locations represent the human geographies of the past, when the climate was different or when these specific, if challenging, locations had active social or cultural significance. The remoteness of rock art sites means that many, perhaps the majority, are "unknown" and have not been documented. In Utah, for example, it is reasonable to estimate that there are between 80,000 and 100,000 rock art sites in the state, but only between 18,000 and 20,000 are "known."[1] The rest exist within the landscape, waiting to be interacted with.

The religious, cultural, historical, and artistic significance of rock art has inspired over a century of policy aimed at its conservation. Although the mosaic of cultural heritage protection across the "checkerboard" of rural land owned or overseen by federal, state, and private entities falls beyond the scope of this short article, the responsibility for the preservation of rural rock art falls to a variety of agencies at local, state, and federal levels, as does the protection of rock art from criminal damage.

Far from being inactive entities, rock art sites seem to exert a pull on humans, an attraction that not only inspires curiosity and wonder but also provokes what can be classed as destructive responses. Despite their rural or remote locations, people are drawn to rock art sites, and the sites experience numerous forms of crime. Although often broadly classified as vandalism, these activities form a varied corpus of illicit human–object interactions. These include the following:

- Theft of rock art from its original location, either for personal use and display at a person's home or for sale within the market for illicit cultural objects.
- Petty vandalism of rock art sites, with contemporary names, dates, and other tags added, either scratched into the rock or added via paint or marker.
- Targeted destructive vandalism of rock art sites that purposefully obliterates the rock art itself.
- Shooting rock art sites with guns ("target practice").

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- Acts of secondary damage, such as urinating on or starting fires near rock art.

Clearly, preventing and policing crime at rock art sites is an impossible task. To consider Utah again, one of several largely rural southwestern states with large numbers of rock art sites, the majority of land in the state can be classed as rural according to the 2010 U.S. Census, with 90 percent of the state's population living on just 1.11 percent of the state's land (see Davidson 2012), and the population density of large parts of Utah is less than 1 person per square mile. Over 60 percent of Utah's land is owned by the U.S. Federal Government (i.e., The Bureau of Land Management, The National Park Service, and the U.S. Forestry Service; see Congressional Research Service 2020) and 10 percent is owned by the state (Leydsman 2009). Preventing crime through direct intervention at 20,000 known rock art sites spread out across Utah's largely rural 84,899 square miles is already beyond reasonable policing capabilities. Considering that up to a further 80,000 more rock art sites are unknown to authorities but are still vulnerable to crime, we are left with a policing conundrum.

Within a vast and rural landscape, rock art poses a security conundrum. It would seem that rock art sites that are nearer to human habitation can be more effectively protected and policed: They can be physically hardened; monitored by guards, rangers, or other relevant security personnel; and interested community members can participate in site monitoring. In contrast, it would seem that the rural and remote rock art sites are most vulnerable: They cannot be monitored or hardened, they might not even be known to authorities, and the vast personless landscape serves as a shield for unsanctioned or illegal activities. Yet, the limited research conducted on the nature of rock art vandalism in the Southwest does not support these assumptions. The presence of people—any people, including those tasked with securing and policing—could increase a rock art site's risk of experiencing crime, whereas remoteness might shield sites from damage rather than shielding the people causing the damage. Security, then, might come not from traditional policing but from restriction of locational knowledge and from just staying away.

The information presented in this article was gathered from a series of video conference interviews and invited e-mail conversations with six rock art managers and preservation society officers located in the Southwestern and Western United States. These interviews were conducted by the first author in late 2020 and they followed and were supplemented by discussion on Twitter. Potential interviewees were either invited to "move the conversation off social media" or were contacted to participate directly by the first author based on their public career function in rock art management. These targeted interviews were further supplemented by in-person interviews of site managers and observational field research conducted by the first author at rock art sites in Utah, Colorado, and Arizona in early 2018. Although rock art vandalism was tangential to the primary focus of this earlier fieldwork, the subject came up in a number of interviews. All interviews were lightly structured around the theme of vandalism (or, in the case of the earlier interviews, paleontological crimes), with the specific questions asked being based on the expertise and job functions of the interviewee. Interviews were not recorded, and direct quotes will not be presented in this text; however, notes were taken by Yates during or after the interview. Some interviews were supplemented by follow-up e-mail communication to clarify points or so that the interviewees could share articles or other information about specific rock art vandalism cases. The anonymity of these sources is being preserved here in line with ethics approval for this research granted by Maastricht University. This research is further supported by Wright's work on the correlation between access and the presence of graffiti and vandalism at rock art sites in Arizona (e.g., Wright 2018).

Vandalism in Criminological Theory

In criminology vandalism tends to be approached either by focusing on the perpetrator's motivations and tactics or by focusing on the vandalized environment. Lévy-Leboyer (1984) described vandalism as traditionally perceived "as absurd, unreasonable or even pathological behaviour" (4). Vandalism is further described as a senseless social behavior, a revolt against authority, and it targets environments that are more fragile than others (Lévy-Leboyer 1984). These lines of thinking were criticized for being insufficient in explaining vandalism and instead it was suggested that vandalism be looked at through the framework of the relationship between individuals and the environment or from the point of view "of an individual/environment *system*, with the environment being viewed as a sociophysical whole" (Lévy-Leboyer 1984, 9, italics in original).

The concept of "defensible space" was first introduced by Newman in 1972 and further expanded in his later work (see Newman 1996). Newman saw modifications to the physical environment as the main ways of tackling various forms of vandalism and deterring crime. He argued that if residents were encouraged to take responsibility for clearly defined territories and view common grounds "as an extension of their own private lawns" (Newman 1996, 65), this would further encourage self-policing and scrutiny. Others such as Carter (1984) argued that vandalism needs to be viewed as "a social and

physical process" (354) and, as such, purely physical solutions will not work and are likely to cause further issues.

Nevertheless, Newman's work influenced a shift in crime studies from focusing on the motivations of perpetrators of vandalism (e.g., Cohen 1973) to analyzing factors that create an opportunity for criminal activity to take place (Tijerino 1998). Therefore, opportunity theories such as routine activities theory (see L. E. Cohen and Felson 1979) incorporate ideas presented by Newman, and these theories contend that "the environmental-design factors" might either encourage or deter perpetrators from targeting a specific object or area (Lynch and Cantor 1992, 337). As such, opportunity theories arguably provide more "practical guidelines" for preventing crime than theories focusing on perpetrators' motivations (Lynch and Cantor 1992, 336). These theories focus on reducing opportunities for the crime to take place (Geason and Wilson 1990). Strategies such as "target hardening" using materials that are resistant to the damage is employed by the police in rural settings to deter crime (see Alexander 2019), and increasing surveillance, providing additional lightning, maintenance of trees and shrubs to increase the line of sight, and creation of neighborhood watch programs are only some of the strategic responses to vandalism and destruction of property (see Scott, La Vigne, and Palmer 2007).

The defensible space idea created a discussion regarding the use of the built environment as a tool to fight crime and as a way to determine the likelihood that the crime will take place (Tijerino 1998). This was exemplified by Wilson and Kelling's (1982) broken window theory. They hypothesized that there is a link between order maintenance and crime deterrence and that "one broken window becomes many" (Wilson and Kelling 1982). Wilson and Kelling (1982) argued that if small crimes are not addressed, the more serious crime will flourish. This zero-tolerance approach can be seen in a number of cities; for instance, in New York where small crimes against property are addressed harshly (e.g., NY Penal Law S. 145.60 calls graffiti a Class A misdemeanor). Both Newman's defensible space and Wilson and Kelling's broken window theory are linked in public understanding and in urban and housing development policies (see Cisneros 1995). Newman, in his eponymous volume on the subject, argued that defensible space might be "the last stand of the urban man committed to an open society" (Newman 1972, 203).

What is evident from this brief recount of some of the theories used to address vandalism is the focus on urban settings. Indeed, it has been argued that rural vandalism and rural crime as a whole are marginalized in criminology and it has been dominated by urban-focused approaches and theories (Weisheit and Wells 1996; Somerville, Smith, and McElwee 2015; Poyser and Poyser 2018). As such, it has been argued that the evaluation and applicability of existing, mostly urban-oriented theories in rural settings are required (Weisheit and Wells 1996). Even in situations where such theories are applied to rural settings (see Poyser and Poyser 2018), the conclusions are that a solid definition of rural crime is required and that theories need to be expanded so that they are more applicable to rural contexts. By focusing on the policing challenges of one particular type of rural vandalism, we hope to contribute to the discussion of this type of behavior in less urban spaces and contribute to the developing branch of rural criminology.

Security and Risk at Rural Rock Art Sites

Proximity as Protection and Proximity as Risk

In 1964 Ernest Snyder took photographs of 419 rock art panels located at 109 sites in South Mountain near Phoenix, Arizona. In 1991, J. J. Golio revisited 401 of those panels to assess them for damage (see Golio and Snyder 1993). In the nearly thirty years between the two surveys, the city of Phoenix had grown substantially, making some of the once-rural rock art much more easily accessible to urban communities. Defining "easily accessible" as being in proximity to a parking lot, road, trail, or development area, Golio and Snyder (1993) found that whereas 46.3 percent of the easily accessible rock art sites had been damaged by intentional human activity since 1964, only 15.0 percent of the remote sites were damaged. In their admittedly small survey, sites that were easily accessible were 3.1 times more likely to be damaged than sites that were not (Golio and Snyder 1993). Thus, the easiest rock art sites to monitor were the ones that were most likely to experience crime.

On reflection, although the ultrarural location of many rock art sites might shield crimes from being detected, most of the crimes that rock art sites experience are not facilitated by remoteness. Take, for example, the act of intentional theft of rock art, either for a personal collection of for illicit sale. The removal, either via sawing off a portion of a rock face or transporting an entire boulder, is time-consuming and loud work that can take hours or multiple visits over several days. Although remoteness and inaccessibility might shield the removers' actions over the span of time needed to extract the art, remoteness in turn poses logistical challenges. Rock cutting tools require power from a heavy generator or vehicle and transporting boulders requires a truck. The absence of a passable track to a rock art site might, on the one hand, prevent active site monitoring by authorities, but it also mitigates theft.

Consider, also, acts of vandalism such as graffiti, target shooting, and urination on the sites. These activities line up fairly well with classic concepts of vandalism as acts of bored youths having fun and responding to peer pressure (e.g., see Donnermeyer and Howard 1981). This also lines up with who stakeholders interviewed for this research believe commits those acts at rock art sites. Rock art sites that rest in the accessible periphery of human habitation fall within the catchment area of youth activity and, as points of marked significance, become a target of deviant behavior. Although destruction of a very remote rock art site might reduce the risk of detection, neither youth nor most anyone is likely to come across remote sites in their normal peregrinations. If youthful peer pressure–style vandalism is a by-product of normal social behavior (e.g., see De Wet [2004] on learner vandalism at school), the vandalized site must be within the area of that social behavior: along a road, down a marked hiking path, sign posted, and nearby. There is no one to urinate on a rock art site that is kilometers into the desert, along no passable track.

The rock art sites on the periphery, in rural spaces that are still visitable, tend to be the focus of security interventions, although the effectiveness of those interventions is debatable. In Utah, only approximately twenty rock art sites (again, out of up to 20,000 known sites and up to 100,000 unknown sites) have been "hardened" via the installation of protective security features to prevent vandalism, usually in the form of barriers to access. Sites that are selected for hardening display one of two risk factors: Either the rock art in question is especially beautiful or significant, meaning that it attracts people specifically, or the rock art is in a particularly accessible location near a lot of human activity. Yet there is a feeling among those tasked with securing rural rock art sites that hardening brings further unwanted attention. By marking these sites out as places worthy of protective barriers and "no touching" signs, they become sites of focus for the type of "youth vandalism" behavior that the intervention measures seek to prevent (Higgins 1992, 228), in effect challenging offenders to beat the security measures. To borrow a quote from S. Cohen (1973, 48), who, in turn, borrowed the quote from a 1920s study of youth gangs in Chicago, "We'd see a sign, 'please keep the street clean,' but we'd tear it down and say, 'We don't feel like keeping it clean.'"

Secret Locations as Security

If remoteness shields rock art from vandalism and if site hardening is linked in the eyes of some site security managers with the attraction of further vandalism, it is clear that interventionist security measures are inappropriate for preventing crime at many rural rock art sites. Partially due to the practical impossibility of securing tens of thousands of examples of remote rock art, some security focus has been placed on the idea of passively preventing human access to sites. It is common to discuss the protection of cultural heritage sites, including rock art sites, in terminology that promotes preservation "for all humankind." This rhetorical tradition has a strong foundation in internationalized heritage protection, such as the creation and maintenance of the UNESCO World Heritage list. Yet preservation for all humankind does not mean access for all humankind, with access as discussed previously being a primary risk factor for destruction in many cases (e.g., see Keenan [2005] on looting in the Sahara), including that of rock art. Protection of many remote and nonhardened rock art sites, then, does not mean promoting them as heritage destinations for tourists. Rather, protection often involves reducing opportunities for the public to find out the location of sensitive sites, while acknowledging that on rural and often-public land, there is no mandate for or possibility of physically keeping people away.

It is common within archaeological circles to not publish exact locations of archaeological sites (including rock art sites) within scientific or popular press articles. This is the result of a collective disciplinary observation that rock art sites that have been published with locational information in academic works have subsequently been targeted for theft or vandalism (Higgins 1992). Site locations are shared with other professionals on direct inquiry, but to share more widely is considered to put those sites at risk. State and federal agencies that are tasked with management and protection regularly gatekeep access to the locational information that they hold about rock art and other archaeological sites by not making geographic information system databases and site reports accessible online and funneling public queries about sites through semidedicated offices.

Heritage managers, enthusiast groups, and tourism councils usually meet the legitimate public interest in rock art sites with public lists of a limited number of hardened and accessible rock art sites (e.g., Moab Area Travel Council n.d.; Utah Office of Tourism, n.d.; Utah Rock Art Research Association [URARA] n.d.). These are almost always coupled with either a list of guidelines for proper behavior at rock art sites that address vandalism directly, both warning visitors that rock art vandalism is a federal crime (e.g., Utah Office of Tourism, n.d.) and asking visitors to not to attempt to remove vandalism at rock art sites because such interventions can cause further harm (e.g., Moab Area Travel Council n.d.)

Not publicizing the location of rock art sites is often paired with the controlled sharing of site locations as part of community stewardship initiatives that attempt to lightly monitor sites for vandalism,

without expensive professional interventions. For example, Utah's Heritage Stewardship program has trained more than 100 volunteers to monitor change and report damage at rock art sites using a dedicated smartphone application. Location data for the sites are shared with the volunteers, who then periodically and responsibly visit the sites during the course of hiking or other outdoor activities. The program's stated goal is "zero archaeological vandalism" (Weist n.d.).

Perhaps telling, though, is number ten on URARA's list of Rock Art Site Visitation Ethics: "Be careful about disclosing site locations especially via the Internet. Remember that smart phones and global positioning system (GPS) enabled cameras embed specific site location data within the photo that others can use to find the site" (URARA n.d.). Social media creates a serious contemporary challenge for protection of rural rock art sites by publicizing locations that preservationists and site security managers regularly would prefer to not share with the public.

The Challenge of Social Media

The artistic beauty and cultural significance of much rock art makes it a focus for people interested in image- and video-based social media. Exploring the hashtag #petroglyphs on Instagram results in numerous images of Southwestern rural rock posted within any given twenty-four-hour period. Many of these exhibit visible marks of vandalism, and they are presented with a varying degree of locational information ranging from nothing at all to precise location data. Video sharing sites such as YouTube also host an extensive amount of personally produced videos of visits to rock art sites, again with varying amounts of locational data provided. In both cases, sites are regularly described in terms such as "secret" or "untouched" and as being "discovered" by the photographer or video producer. Drones are sometimes used to take images of difficult-to-access sites. Some feature the various permutations of "no trespassing" or "access permit required" that the producer can be assumed to be violating. Even in situations where the locations of rock art sites are not explicitly shared, geotagging features within social media or saved in image metadata can reveal exact site locations. Social media followers, then, can then locate and visit rock art sites themselves. There is also some indication that rock art sites might be vandalized specifically to improve their features for social media imagery, with vandalism in the name of photograph enhancement representing a long-standing issue at these sites that predates the Internet (e.g., see Chaffee, Hyman, and Rowe 1994).

Rock art managers interviewed for this research expressed deep misgivings about social media, characterizing it as an underappreciated threat to site security in rural areas. The "restricting location data" approach to security at rock art sites is challenged by the ubiquity of geotagged social media, which shrinks the open rural wilds to a series of specific spots that people can visit and then, themselves, share on social media. An increased number of visitors, as discussed previously, appears to increase the risk that any given rock art site will be vandalized. Further, managers fear that geotagging of remote and unmonitored rock art sites can facilitate the targeted theft of rock art.

Although at present no formal statistics exist related to who currently commits rock art vandalism in the Southwest, managers interviewed expressed the opinion that most very recent acts of rock art vandalism have been committed by tourists from outside the local and rural communities. These tourists are portrayed as having limited experience about respectful behavior at rock art sites, and the implication is that some of them might have been attracted to the sites by social media generally or particular social media posts specifically. Managers report that restrictions related to COVID-19 have inspired a sharp increase in urban tourists visiting rural locations within their own state or region, sometimes for the first time, as other forms of recreation or vacation travel became limited, a trend that has become global (see Mendez 2020). This inevitably increased visitor numbers to easily accessible rock art sites and likely did the same for less accessible sites. An increase in vandalism at these sites correlating to COVID-19 restrictions has been noted, but as the situation was ongoing at the time of writing, little more can be said about it at this time.

Exploring Object Agency and Crime

In this short discussion we hope to have conveyed the complexity of security and policing at rock art sites within a rural landscape. The case of rock art seems to indicate that our existing urban-based criminological models for both understanding vandalism and for developing appropriate policies toward vandalism prevention are not particularly useful or appropriate for rock art or similar rural and remote targets. Our discussion has provided insights on how counterintuitive patterns of crime in these ultrarural locations might seem. Whereas urban-centered opportunity theories suggest that offenders will choose to commit the crime if the reward is high but risk is low, with rock art we see a different pattern. For instance, routine activities theory suggests that the lack of capable guardianship might increase the chance of vandalism, but in the case of rock art, the targets themselves could be considered "unsuitable" due to many factors discussed earlier. Very rural rock art sites also lack a steady supply of likely offenders, with only the most motivated of offenders specifically seeking out the sites for criminal activities. Therefore, many practical guidelines

proposed by urban-based theories are not feasible in remote rock art sites. Those tasked with preventing vandalism at rural rock art sites rely less on broken window–style policing methods than they do on less resource-intensive forms of monitoring and control, such as not sharing locational information for most sites. Not only are target hardening or increased police patrols at known rock art sites logistically and financially impossible, but they also serve to call attention to the sites, leading to the very incidences of vandalism that such measures are meant to prevent.

Perhaps even more important is that, in a sense, rock art represents a "window" that cannot be unbroken. A core tenet of broken windows theory is that a poorly maintained environment inspires criminal behavior and explicitly that graffiti attracts more graffiti, whereas graffiti removal can engender future graffiti prevention. Rock art was by definition produced by a human scratching, carving, or painting on a stone face, an act akin to graffiti. The rock art then seems to attract further scratching, carving, painting, and other human action to the same rock face and "some may survive to become the 'rock art' of the future" (Murray, quoted in Fernandes 2009, 732). Removing the original rock art to prevent further vandalism would, of course, defeat the purpose.

The ability of rock art to draw people to rural locations and to seemingly inspire them to commit crimes is both fascinating and understudied, at least within criminology. S. Cohen's (1973) classic classification of vandalism literally "wrote off" vandalism at heritage sites by portraying it as "writing off" and "minor property damage," saying "such damage or defacement is institutionalised in the sense that it is expected" (27). The prevalence of rock art vandalism certainly makes it an expected feature of those sites, but ending the discussion there ignores the almost agentic quality that rock art has, at least with regard to how people respond to it. Asserting that an object (rock art) might make people commit a crime (vandalism) either by its simple existence or by the social and cultural qualities embedded within it is bold and untested. Yet a more thorough understanding of the relationships between rock art and the people who interact with it could have major implications for policing and protecting sites that exist beyond the limits of existing urban-focused models. ■

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Note

[1] According to an interviewee with a professional responsibility to manage such sites. See later for information regarding interview methods, including anonymity.

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