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THE LITIGATION OF EXPLORATION

ANNIE BRETT* AND DR. KENNETH BROAD**

INTRODUCTION

IN 2009, fourteen-year-old Laura Dekker announced her plan to circumnavigate the globe alone, a feat that would make her the youngest person to successfully sail solo around the world.¹ However, nearly as soon as her plans were announced the Dutch courts stepped in to prevent her journey. Arguing that she was too young to be allowed to undertake such a dangerous trip, the Dutch government assumed joint custody over Laura with the sole intent of preventing her from setting sail.²

Two years of legal battles ensued before Laura eventually snuck out of the Netherlands without official permission and began her sail from St. Maarten.³ Her story was watched throughout the world, raising questions not only about the appropriate age to undertake such a sail, but also bringing this subculture of solo sailors into the mainstream eye.⁴

Laura's story, while not exactly typical in any regard, nonetheless provides an excellent illustration of how closely modern exploration, often inextricably conflated with "adventure," has become intertwined with the law.⁵ Legal disputes have always been associated with explorers, from the 18th century days when the wealth of the world was being discovered and commandeered by Europeans to later accusations of defamation and slan-

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1. See Lizzy Davies, *Missing Dutch Sailor Laura Dekker, 14, Found on Caribbean Island*, THE GUARDIAN (Dec. 20, 2009, 06:17 PM), <https://www.theguardian.com/world/2009/dec/20/laura-dekker-missing> [<https://perma.cc/DW97-92Y3>].

2. See *id.*

3. See Bruno Waterfield, *Teenage Dutch Sailor Laura Dekker Vows Never to Return Home*, TELEGRAPH (Jan. 20, 2012, 04:00 PM), <http://www.telegraph.co.uk/sport/othersports/sailing/9025435/Teenage-Dutch-sailor-Laura-Dekker-vows-never-to-return-home.html> [<https://perma.cc/5FBZ-AESJ>].

4. See, e.g., Caroline Davies, *Oceans at 13? Concern for Teenagers Chasing Around-the-World Records*, THE GUARDIAN (Aug. 28, 2009, 06:26 PM), <https://www.theguardian.com/society/2009/aug/28/laura-dekker-around-world-sailing> [<https://perma.cc/GE6K-YLMC>].

5. Whether or not Laura Dekker was engaged in true "exploration" is open to debate. See *infra* notes 14–17 & 28–34 and accompanying text for a discussion of the definition of exploration. Regardless, her experiences provide valuable and applicable insights to the world of exploration.

der as explorers became prominent public figures dependent on their notoriety to finance increasingly complex expeditions.⁶

But in no era has the litigation of exploration been as prevalent as it is today.⁷ This is perhaps reflective of a general worldwide trend toward increasing litigiousness—more laws mean more lawsuits.⁸ However, this trend has disproportionate impacts on explorers. Many of the laws we see appearing in recent decades are governmental measures intended to reduce risks to individuals (often by limiting permissible activities) and spread the cost of risk reduction among many (often by placing the burden for risk reduction strategies on large corporations).⁹ These “social welfare laws” operate on the assumption that minimizing risk for individuals is not just socially and economically preferable, but also *individually* preferable.¹⁰ However, if there is anything that fifty years of behavioral economics has taught us it is that individuals are not purely rational actors.¹¹ Explorers epitomize this in our risk reducing society—not only do they often resent the risk-limiting legal restrictions placed on them, but in many cases they actively seek out highly risky situations.¹² These counter-normative preferences place explorers in frequent and direct conflict with many of the tenants of our legal system and raise questions about how risk is societally managed.

The changes in social governance in the past century have been coupled with dramatic changes in exploration itself that in turn increase the legal burden for explorers. Notable among these are the changes in the methods and outcomes of exploration over time.¹³ Historical explorers were likely to bring back stolen artifacts and mounds of gold to their colonial governments.¹⁴ Today, such prolific caches of treasure are much more rare.¹⁵ Instead, current exploration generally aims to uncover scien-

6. See generally FELIX DRIVER, *GEOGRAPHY MILITANT: CULTURES OF EXPLORATION AND EMPIRE* (2001).

7. See, e.g., Curt Anderson, *Family Sues Over Toronto Filmmaker Rob Stewart's Diving Death in Florida*, THE STAR (Mar. 28, 2017), <https://www.thestar.com/news/gta/2017/03/28/family-files-lawsuit-over-toronto-filmmaker-rob-stewarts-death-in-florida.html> [<https://perma.cc/7RYH-BFYM>].

8. See generally Michael D. Johnston, *The Litigation Explosion, Proposed Reforms, and Their Consequences*, 21 BYU J. PUB. L. 179 (2007).

9. See Jonathon Simon, *Taking Risks: Extreme Sports and the Embrace of Risk in Advanced Liberal Societies*, in *EMBRACING RISK: THE CHANGING CULTURE OF INSURANCE AND RESPONSIBILITY* 177, 177 (Tom Baker & Jonathan Simon eds., 2010).

10. See *id.*

11. See, e.g., generally DANIEL KAHNEMAN, *THINKING, FAST AND SLOW* (2013).

12. See, e.g., Simon, *supra* note 9, at 193 (describing the importance of risk taking for mountaineers as leading to “a heightened psychological and physical experience,” taking climbers closer to “the sublime”)

13. For an overview of how exploration has changed throughout history, see Peter Miller, *Why Explore*, NATIONAL GEOGRAPHIC: 125 YEARS OF GREAT EXPLORATIONS, July 3, 2013, at 32.

14. See *id.*

15. And the global community generally frowns upon their pillaging.

tific discoveries or create compelling media products.¹⁶ These can be extremely valuable assets to expeditions and the rights over them often become subject to heated legal disputes.¹⁷

Taken together, the changes in societal governance of risk coupled with the changes to exploration itself have created an environment today where litigation is an integral, but generally overlooked, aspect of exploration. This Article addresses the current relationship between law and exploration, asking how the litigation of exploration has evolved over time and what characterizes this relationship today. We also pose several normative questions about what the relationship between law and exploration *should* be. Part I defines the field of exploration that this Article will consider and looks at the important social role and historical evolution of exploration. Part II considers how liability for exploration accidents is apportioned by the law, ultimately arguing that explorers are subject to potentially disproportionate liability. Part III addresses what benefits explorers get from subjecting themselves to extreme amounts of legal and physical risk, namely through rights in the outcomes of their expeditions. Taken together, liability for systemic accidents combined with generally meager rights to expedition media assets create a situation, we argue, where explorers are subject to a great deal of risk and responsibility with little legally protected rights. We conclude by questioning this trend in light of exploration's social contributions.

I. UNDERSTANDING EXPLORATION AND THE LAW

A pair of roped together mountain-climbers is descending from a successful summit attempt in Tibet when one of them slips and is unable to self-arrest. His buddy, responding as he was trained to do, immediately throws himself to the ground and uses his ice axe to dig in to arrest his partner. He hits a particularly soft patch of ice however, and his arrest is ineffective. The momentum of his partner's fall pulls him down the side of the mountain. Miraculously, he is finally able to arrest at the edge of a crevasse. Dangling below him, his partner has already fallen into the crevasse. The top climber's ice axe has stopped their fall momentarily, but it is not holding and he is being dragged slowly closer to the edge of the crevasse by the weight of his partner. If he does not take action quickly, they will both die. If he wishes to save himself he has to cut the line connecting him to his partner, resulting in the near certain death of his partner. Is the top climber in this case justified in cutting his partner free to save himself? Should this be considered murder?

This is the "mountain climber problem."¹⁸ It is a staple of first-year torts classes, asking students to consider how risk and responsibility should

16. See DRIVER, *supra* note 5, at 32.

17. See *id.* at 32–33.

18. See, e.g., John Alan Cohan, *Homicide by Necessity*, 10 CHAP. L. REV. 119, 134 (2006).

be allocated at the boundaries of believability.¹⁹ Exploration often pushes law to these boundaries, expanding the range of legal hypotheticals to the seemingly ridiculous. But it was exploration accidents similar to the mountain climber problem created the “homicide by necessity” defense.²⁰ In the 18th and 19th centuries, homicide by necessity was a relatively accepted, if gruesome, option for stranded and starving explorers. Drawing lots to determine which of the company would be killed and eaten by the remainder so that they could live was considered “custom.”²¹ In these circumstances, the survivors (when there were any) were not prosecuted for murder, it being understood that this behavior was excused by custom and the doctrine of necessity.

Homicide by necessity gives us just one example of how exploration’s norms have become the basis for our laws. The boundary-pushing activities of explorers force the law to address new areas and to provide new ways of considering problems that are applicable to its unique, risk-seeking culture. The homicide by necessity argument, for instance, continues to appear in the modern day—in 1987, a man impeding the evacuation of a ship was pushed overboard in order to allow the remaining passengers to make it to safety.²² No charges were brought as a result of this action and it was considered reasonable given the circumstances.²³ Exploration has shaped our laws in many ways by providing these first problems that force lawyers and judges to consider fairness and liability in extreme circumstances.

But far more frequently than exploration has shaped the law, our laws have had a huge influence on how exploration is carried out. From the controversial imposition of liability, to the requirements of insurance, explorers face legal problems that not infrequently prevent them from carrying out expeditions. Despite this, virtually no attention, academic or otherwise, has been paid to exactly how our legal system influences exploration.²⁴ This Article addresses this question, in this section focusing on the liability regime governing accidents on expeditions and in the next on the laws that determine how rights to the products of exploration are protected.

Before diving further into these questions, however, we would like to make explicit what is implicit in the premise of this Article: that the litigation of exploration is worth studying as a distinct entity and not merely as an amalgam of different branches of law. As a way of looking at legal issues, combining subject specific matter together to study the “law of X”

19. *See id.*

20. *See id.* at 133.

21. *See id.* at 130.

22. *See id.* at 132–33.

23. *See id.*

24. Perhaps a result of exploration’s status as an “academic backwater.” *See* James R. Ryan & Simon Naylor, *Exploration in the Twentieth Century*, in *NEW SPACES OF EXPLORATION* 1, 1 (Simon Naylor & James Ryan eds., 2010).

does not always make sense and has been the subject of justified criticism by the legal academy. Judge Frank Easterbrook's discussion of the "law of the horse" is perhaps the most famous of these critiques.²⁵ Easterbrook argued that studying the law as relating to one entity misses out on the broad rules of law that underpin any specific conclusions we may come to about horses.²⁶ As such, when we do this we are left with a piecemeal understanding of law at best.

This critique has a devoted following,²⁷ and it is one that has some merit in the context of the law of exploration. As such a large and diffuse enterprise, thinking about a law of exploration as a cohesive whole is in some ways laughable, as the problems encountered by explorers are so diverse. Often times the most useful legal analogues are not other expeditions, but railroad disasters or commercial film defamation lawsuits. This alone would seem to suggest that considering exploration as a distinct category of law is not particularly useful.

However, this is not dispositive. Exploration uniquely occurs at the limits of human experience and ability. At these limits, our laws are tested in ways that we don't necessarily see in any other field. Exploration thus is a fantastic, and underutilized, lens to explore risk and responsibility in our society, as well as the role of the law in limiting or allowing boundary-pushing activities. Many explorers blame the legal system for limiting behaviors that they would like to engage in—are these limitations reasonable given the potential societal costs?

Moreover, understanding the litigation of exploration allows us to better understand exploration itself. The intersections of the legal system and exploration over time are an invaluable tool in illustrating what exploration is and what it means. Legal analysis gives insight into the problems that explorers are faced with and how this influences their behavior (and ultimately the societal goods that they provide). The increase in litigation recently provides an insight into what the future of exploration may look like. Exploration remains a relatively unstudied academic area, despite the major theoretical and practical outcomes of expeditions. Here, we subject exploration to legal analysis both to better understand exploration itself and to gain insight into how litigation shapes our regime of exploration.

First, however, it is important to briefly delineate what exploration is and how it differs from other related activities (extreme sports, adventure travel, etc.). Developing a definition for exploration is not an easy task. There are some things that culturally we agree are clear examples of exploration: Columbus sailing to discover the new world, Ponce de Leon

25. See Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, 1996 U. CHI. LEGAL F. 207, 207 (1996).

26. See *id.* at 207–08.

27. See, e.g., J.B. Ruhl & James Salzman, *Climate Change Meets the Law of the Horse*, 62 DUKE L.J. 975, 977, 980–81 (2013).

searching for the fountain of youth, Magellan circumnavigating the globe. But does exploration include someone using a GoPro to film themselves running whitewater on a remote river? Was Jane Goodall exploring when she conducted research on chimps in Africa?²⁸ Are children investigating the inhabitants of their yard with a magnifying glass exploring?

Colloquially, it wouldn't be out of place to describe any of these people as "exploring." This fits with the general dictionary definition of exploration as "to travel in a region previously unknown or little known in order to learn about its natural features, inhabitants, etc."²⁹ This broad definition can encompass many different activities—from purely personal exploration (discovering something unfamiliar to yourself) to exploration with huge societal implications (discovering something unfamiliar to mankind) and is in line with the diverse roles and cultures of exploration historically.³⁰ Geographer Felix Driver, one of the few academics whose studies have focused on exploration, notes that "[f]ar from being a homogenous field, the culture of exploration was riven with differences over the style, methods and function of the explorer."³¹

However, in coming to his own definition of exploration Driver incorporates an additional clarifying element, newness: "exploration was conceived of as a particular kind of travel associated with the sight of *new* landscapes, peoples, plants and animals."³² He further clarifies this newness as laying "eyes upon a lake, a peak, a species, for the first time."³³ This definition narrows the field of reference for exploration: the things being explored must not just be unfamiliar to the explorer, but new to society as a whole. National Geographic concurs with this definition, describing exploration in a 125-year retrospective as "push[ing] beyond the boundaries of what is known, seeking new territories and new opportunities."³⁴ This is the exploration this Article is concerned with and the definition that we will use here. Within this definition of exploration, there are several major subcategories of exploration. Understanding these helps to characterize the field and set the stage for a legal analysis, but also helps to understand how exploration has evolved over time.

Exploration in its most obvious form historically is associated with reaching new, unknown, and unconquered places. This era of discovery is known to many by Joseph Conrad's famous term "Geography Militant."³⁵

28. National Geographic thinks so: Goodall was "Explorer in Residence" there from 2000 to 2002. See *National Geographic Milestones*, NAT'L GEOGRAPHIC, <http://press.nationalgeographic.com/milestones/> [https://perma.cc/BPT2-9TLE] (last visited Feb. 22, 2018).

29. *Explore*, WEBSTER'S NEW WORLD COLLEGIATE DICTIONARY (5th ed. 2014).

30. See *id.*

31. See DRIVER, *supra* note 5, at 10.

32. See *id.* (emphasis added).

33. See *id.*

34. See Miller, *supra* note 13, at 32.

35. See DRIVER, *supra* note 5, at 3.

Geography Militant was the age of territorial exploration, occurring from the mid 1600s to 1900, epitomized by the voyages of Captain Cook, of Magellan, of Lewis and Clark.³⁶ This was a romantic era, full of the mystery of filling in the blank spaces on the map and the lure of untold wealth. For the explorers during this time, the geography of their expeditions was often as important as any other goal: the extreme locations they reached alone automatically characterized their journeys as feats of exploration.

The era of territorial exploration was also rife with exploration undertaken for religious purposes. Religious exploration was associated most prominently with missionaries, who sought new places for the purposes of converting the inhabitants there.³⁷ The goals of religious and territorial expeditions were often closely aligned, and many expeditions of the 18th and 19th centuries can be understood as both.³⁸ European explorers would search for new territories to claim, bringing missionaries along with them to attempt to convert the locals.³⁹

As of 1904, geographers had declared the “Columbian” age of exploration officially over.⁴⁰ The blank spaces on the map had been explored and claimed, while increasing globalization had replaced exploration with tourism.⁴¹ Conrad himself noted this shift as one from “Geography Militant” to “Geography Triumphant.”⁴² But the passing of the age of territorial exploration did not mark the end of exploration.⁴³ Instead, the goals of exploration shifted and multiplied.⁴⁴ The search for new unexplored places to claim was replaced, and it was replaced primarily by exploration carried out for scientific discovery.

Scientific discovery was not an entirely new rationale for exploration at this time. In fact, scientific exploration had been carried out for centuries before, becoming notably supported and institutionalized by Britain’s Royal Geographical Society in the mid-1800s.⁴⁵ However, scientific exploration prior to the 20th century tended to be inextricably connected to

36. *See id.*

37. *See id.*

38. *See id.*

39. *See id.*

40. *See* Halford Mackinder, *The Geographical Pivot of History*, 23 *GEOGRAPHICAL J.* 421, 421 (1904).

41. *See* DRIVER, *supra* note 5, at 199.

42. *See id.* at 3.

43. Commentators are quick to write off the age of territorial exploration as completely over, but it is not this simple. In 2007, the Russians made a statement by using a submarine to plant a flag on the seafloor of the Arctic, making a territorial claim that was then copied by the Americans and Canadians. Space too presents opportunity for territorial claims. Despite international treaties expressly preventing states from making territorial claims in space, several companies have essentially made these claims nonetheless. *See, e.g.,* *Nemitz v. United States*, No. CV-N03599-HDM, 2004 WL 3167042 (D. Nev. Apr. 26, 2004).

44. *See* Ryan & Naylor, *supra* note 24, at 21.

45. *See* DRIVER, *supra* note 5, at 24.

territorial exploration. Scientists were often brought on board territorial expeditions that were already fully funded as additional personnel.⁴⁶ The data gathered by these projects became a crucial component in the European quest for imperial expansion.⁴⁷

It wasn't until the 20th century that scientific discovery came to be a rationale for exploration in its own right. Examples of this scientific exploration abound—from exploration of the poles as part of the International Geophysical Year⁴⁸ to space exploration that yielded new insights into our atmosphere and globe⁴⁹—the 20th century was highlighted by scientific exploration in new and more remote areas.

The evolution of exploration over time to increasingly include a scientific or cultural purpose has propelled the new relationship between exploration and the law. Where once colonial powers claimed new land through their explorers, today corporations and other private entities are generally the funders of exploration.⁵⁰ Whether the purpose is scientific discovery, cultural outreach, or simply a sensational story, the funders of expeditions have a stake in the outcome.⁵¹ Conflicts over how big this stake is in practice, the relationship between explorers and funders, and what rights explorers are willing to sacrifice to obtain funding have become major questions that must be considered prior to any expedition.⁵²

In addition to new goals of scientific discovery, exploration today is also defined by a new level of accessibility to the general public. Once cost-prohibitive technologies are now commonplace (high-quality video cameras or scientific instruments, for example). In light of these shifts, determining what exactly is exploration becomes even less obvious. It is useful to look back at the definition of exploration we put forward earlier: pushing beyond the boundaries of what is known. This helps to clarify some things that may seem like exploration, but in fact are not.

The most obvious of these, and one worth distinguishing in some detail, is the world of extreme sports. In recent decades, extreme sports have

46. *See id.*

47. *See id.* at 37–46.

48. *See* Klaus Dodd, *Assault on the Unknown: Geopolitics, Antarctic Science and the International Geophysical Year (1957–8)*, in *NEW SPACES OF EXPLORATION: GEOGRAPHIES OF DISCOVERY IN THE TWENTIETH CENTURY* 148, 148–72 (Simon Naylor & James Ryan eds., 2010).

49. *See* Fraser MacDonald, *High Empire: Rocketry and the Popular Geopolitics of Space Exploration, 1944–62*, in *NEW SPACES OF EXPLORATION: GEOGRAPHIES OF DISCOVERY IN THE TWENTIETH CENTURY* 196, 196–221 (Simon Naylor & James Ryan eds., 2010).

50. *See id.*

51. *See id.*

52. *See generally* Paul Deegan, *Commercial Sponsorship and the Media*, in *EXPEDITION HANDBOOK 92* (Royal Geographic Society, eds. 2004), <http://www.rgs.org/NR/rdonlyres/E91B192F-782B-42B9-BCEF-9CA4D06D9172/0/HBFFcsm.pdf> [<https://perma.cc/G3TW-KJK8>].

experienced a huge boom in popularity.⁵³ Historically, anyone engaging in an expedition attempting to summit Everest, raft the Amazon, or sail through the Northwest Passage would automatically be considered an explorer.⁵⁴ These were activities that were only carried out for some broader purpose by those who were able to garner the sponsorship and backing to be able to afford them.⁵⁵ Today, these same activities have become commonplace. Extreme mountaineering, ocean sailing, and base-jumping are now considered recreational activities and are engaged in for no other reason than personal enjoyment.⁵⁶ Of course, explorers also still undertake many of these activities for professional purposes as the method for their exploration. The distinction between exploration and extreme sports is thus often unclear, with the same activities done sometimes for recreational purposes and sometimes for pure exploration. However, extreme sports can be clearly distinguished from exploration in several ways, the most apparent being the differences in the goals of the undertaking. Exploration is defined by some knowledge-gaining purpose,⁵⁷ sports are “defined as an activity that is done for enjoyment or thrill,”⁵⁸ the implication being that this is the primary, and in many cases, only goal. Extreme sports specifically go beyond this to cover sports that are “physically hazardous”⁵⁹ and are often carried out for achievement-oriented goals, or “summitteering.”⁶⁰ Exploration is often also dangerous and requires explorers to engage in many pursuits that often are viewed as extreme sports: mountaineering, cave diving, etc. However, exploration requires a goal that goes beyond personal enjoyment alone: there must be some higher knowledge seeking purpose.

From a legal perspective, however, this distinction is not necessarily a critical one. Mountaineering accidents will be looked at in much the same way regardless of whether the purpose of the trip was scientific or purely recreational.⁶¹ There are certainly instances where this is not the case and the purpose of the mission has legal importance, but the law of extreme sports is related enough to offer numerous useful insights into the litigation of exploration. It is also useful as a starting point, as the law of extreme sports has been much more fleshed out by the legal academy than

53. See, e.g., Amanda Greer, *Extreme Sports and Extreme Liability: The Effect of Waivers of Liability in Extreme Sports*, 9 DEPAUL J. SPORTS L. & CONTEMP. PROBS. 81, 81 (2012).

54. See *id.*

55. See *id.* at 81–82.

56. See *id.*

57. See *supra* notes 15–19 and accompanying text.

58. See Greer, *supra* note 53, at 81.

59. See *id.* at 81–82.

60. See Simon, *supra* note 9, at 190–92.

61. However, while the types of issues that appear are consistent between explorers and recreational sports enthusiasts, the frequency is much different. Recreational sports are much more likely to be intertwined with issues of guide liability, for instance, which is less likely to be an issue for professional explorers.

the law of exploration.⁶² Exploration remains academically unstudied. What work does exist comes from the fields of history and geography, focusing on colonial and post-colonial discourses and how exploration (specifically exploration by Europeans) has shaped our current view of the world.⁶³ The significant role of the legal regime in fostering or limiting exploration remains unexamined.

This Article looks to fill this gap, characterizing the litigation of exploration today and into the future. Given the outsized role of exploration historically in territorial and scientific discoveries discussed above, it is clear that the societal benefits of exploration are large. Does the legal system then help to protect explorers who are willing to undertake a great deal of risk to secure these benefits for society? In the next section, we address this question, finding that our legal liability regime often works against the interest of explorers, imposing liability beyond what explorers are prepared for (or believe in).

II. LIABILITY IN EXPLORATION

In 2014, a different set of sailors, the Kaufman family, was en route to Tahiti from Mexico on a trans-Pacific voyage.⁶⁴ Nine hundred miles offshore their infant daughter became severely ill and they were forced to call the US Coast Guard for rescue.⁶⁵ The distance from land made the rescue a costly (\$650,000) and difficult one, but one that was ultimately successful.⁶⁶ On their return to land, the Kaufmans were met with intense media scrutiny for their decisions.⁶⁷ The controversy arising from their case, and from Laura Dekker's before them, spanned the globe. It seemed the entire world stepped up to offer their opinions: how young was too young for someone to sail around the world? Was it inappropriate and "asinine" for parents to take their two young daughters sailing across the Pacific? Should the government have prevented them from even beginning such a voyage? If people do make a risky choice like this, is it the job of the government to come rescue them? If so, who should foot the bill? To what extent should decisions like this solely be personal ones?

62. See, e.g., Greer, *supra* note 53; David Horton, *Extreme Sports and Assumption of Risk: A Blueprint*, 38 U.S.F. L. REV. 599, 599 (2003).

63. See generally DRIVER, *supra* note 5; FELIPE FERNÁNDEZ-ARMESTO, *PATHFINDERS: A GLOBAL HISTORY OF EXPLORATION* (2006); NEW SPACES OF EXPLORATION: GEOGRAPHIES OF DISCOVERY IN THE TWENTIETH CENTURY (Simon Naylor & James Ryan eds., 2010).

64. See Carla Hall, Opinion, *Give the Kaufmans a Break: Sailing Adventure Was Brazen, Not Stupid*, L.A. TIMES (Apr. 8, 2014, 02:27 PM), <http://www.latimes.com/nation/la-ol-stranded-sailors-pacific-baby-rescue20140408-story.html> [https://perma.cc/27CP-BW6C].

65. See *id.*

66. See *id.*

67. See, e.g., Jennifer Medina, *2 Tots, a Sailboat, and a Storm over Parenting*, N.Y. TIMES (Apr. 7, 2014), https://www.nytimes.com/2014/04/08/us/2-tots-a-sailboat-and-a-storm-over-parenting.html?_r=0 [https://perma.cc/B4Y3-BDTR].

These questions are integral to understanding liability in exploration. Balancing personal freedom and agency against the responsibility of the government, or other actors, to protect individuals from risky situations characterizes the unique relationship between exploration and the law.⁶⁸ If someone chooses to undertake an extremely risky activity, to what extent are they alone responsible for the consequences of that choice? And to what extent can others be held responsible, or asked to help me if they find themselves in need of rescue?

In this section, we address the most common scenario of liability on expeditions: catastrophic accidents. High levels of risk are inherent in exploration and the resulting accidents are not just frequent but fatal. Looking at how liability is apportioned in these scenarios has profound implications for explorers and for what activities they choose to carry out. We start our analysis with a theoretical look at the level of risk inherently present in exploration before addressing what mechanisms our legal system uses to manage this risk. We identify three main ways liability from accidents is distributed: by other individuals through private tort actions, by society through public welfare laws, and by the person who was injured themselves. We note the tension between the chosen legal solutions to accidents (tort liability and social protections) with the preferred outcome of explorers (personal responsibility for any injuries that may be incurred).

A. *Exploration, Risk, and the Law*

Understanding liability in exploration first requires an understanding of the degree of risk present on expeditions. Law speaks of risk in degrees and likelihoods, so perhaps it is sufficient to say that for many expeditions, both the likelihood of an accident and the degree of harm likely to arise from an accident are exceedingly high.⁶⁹ In simpler terms: on any given expedition, there's a good chance you could die. This risk is tied up in the nature of exploration itself, achieving the feats of physical and mental preeminence that are the hallmarks of the great explorers would not be possible without undertaking massive risk.⁷⁰ Conversely, these accomplishments would be considerably diminished if there were no risk involved in their undertaking.

The history of exploration, then, is defined by catastrophes. Some of the most famous expeditions are those in which everyone perishes.⁷¹ Blockbusters are made about multi-fatality accidents, about near misses, and expeditions forced to unbelievable ends to survive.⁷² These accidents,

68. See Simon, *supra* note 9, at 177.

69. See *id.*

70. See *id.* at 177, 190–93.

71. See, e.g., generally ALFRED LANSING, *ENDURANCE: SHACKLETON'S INCREDIBLE VOYAGE* (1959).

72. See, e.g., *ALIVE* (Touchstone Pictures 1993); *TOUCHING THE VOID* (FilmFour Productions 2003).

perhaps more so than in any other field, are par for the course in the world of boundary-pushing exploration to the extent that they might even be considered “normal.”

Normal accidents are not a new idea, but they are one that the law notoriously has trouble dealing with. In his seminal work, sociologist Charles Perrow coined the term “normal accidents” to refer to unavoidable accidents that occur in the use of high-risk technologies.⁷³ In systems that are tightly coupled and complex, the classic example being nuclear reactors, Perrow argues that preventing accidents is essentially impossible.⁷⁴ The only question is when one will occur and how large it will be.⁷⁵ Counter-intuitively, Perrow finds that increasing safety measures and procedures actually *increases* the chance that accidents will occur by increasing the complexity of the system.⁷⁶

Expeditions are generally perfect examples of Perrow’s tightly coupled, complex systems. Occurring in small spaces with limited resources, the failure of one piece of equipment can easily lead to a cascade of other problems.⁷⁷ The support equipment and procedures required for sustaining human life in extreme environments are not only complex, but vital for survival. These factors, combined with the extreme environments and shoestring budgets in which exploration often occurs, create a high-degree of inherent risk in exploration. This risk is increased even more when expeditions include the common goal of taking new technologies to extremely harsh environments to test their functionality. Furthering Perrow’s proposition, risk may not always be best addressed by the introduction of new safety measures or regulations, the methods preferred by our legal system (and insurance companies) to show due diligence. In exploration, as in other similar systems, increasing safety measures often leads to increased risk-taking behaviors, a phenomenon known as risk homeostasis.⁷⁸

Exploration, then, is characterized by a high-level of inherent risk that cannot be eliminated. This is perhaps not so different than many other activities we engage in on a daily basis: driving for instance. However, exploration is relatively unique in its relationship to the law. Explorers undertake boundary-pushing expeditions in conditions that the majority of the public would never willingly subject themselves to. These extreme environments generate problems that push the boundaries of our moral and theoretical understanding of law. We examine these here.

73. See generally CHARLES PERROW, *NORMAL ACCIDENTS* 5 (1984).

74. See *id.* at 3.

75. See *id.* at 4–5.

76. See *id.* at 5.

77. See *id.*

78. See *id.*

B. *Individual Liability: Tort Regimes*

Given that catastrophic accidents are normal in exploration, how do we deal with these from a legal perspective? Generally speaking the law has developed two main ways to deal with the risks of exploration: by using public welfare laws to limit risk and spread the costs among many and by using private law regimes to apportion liability after accidents do occur. Of these, private law tort regimes are the most noticeable to, and the most feared by, explorers. The potential for tort liability is a constant consideration for explorers and explorers are quick to criticize the legal system and lawyers for their role in bringing this liability to bear.

The first, and most prominent, cause of tort litigation in exploration today is through negligence actions.⁷⁹ While exploration accidents are rarely accompanied by the elements of a crime, lawsuits based on negligence are common. The explorer's environment of normal accidents frequently creates extreme damages to life and limb. In the wake of these accidents, victims and their families often seek to recover from anyone who may have contributed to the injury. In the case of most exploration accidents, determining whether an action was negligent, and whether it caused an accident, is exceedingly difficult.

Nonetheless, the broad scope of negligence allows diverse exploration lawsuits to be brought and examples of these cases abound.⁸⁰ In the wake of exploration accidents, negligence is the go to legal action for apportioning liability. We go into some depth here to try and address how well negligence actions are able to respond to the realities of exploration. It has been noted previously that the tort system in its current form is notoriously poor at dealing with those explorers, for instance, who not only tolerate but actually *prefer* to engage in risky activities.⁸¹ The reasonable actor that pervades tort law is far from applicable in such circumstances, where the mere decision to engage in one of these extremely risky activities could be considered inherently unreasonable. Regardless, explorers are often forced into this system to either attempt to obtain damages or defend themselves from liability. This section provides an overview of the questions of liability in exploration and points to several places where the tort regime that works for the majority of society may be less useful in the context of exploration.

Negligence forms the basis of a successful lawsuit when a plaintiff can show that a "duty of care" has been breached, resulting in some injury to them. Unlike the (relatively) clear standards set out by the criminal code,

79. For examples of some of these cases, see *Skiles v. Lamartek, Inc.*, No. 50 2012 CA 013132, 2016 FL Jury Verdicts Rptr. LEXIS 356 (Fla. Cir. Ct. May 20, 2016); *Anderson*, *supra* note 7.

80. *See, e.g., Lhotka v. Geographic Expeditions, Inc.*, 104 Cal.Rptr.3d 844, 847–48 (Ct. App. 2010).

81. *See, e.g., Horton*, *supra* note 62, at 606–07; Kenneth W. Simons, *Assumption of Risk and Consent in the Law of Torts: A Theory of Full Preference*, 67 B.U. L. REV. 213, 218 (1987).

a duty of care is much more nebulous. Determining whether, and what degree of, duty is owed and then whether the breach of this duty actually caused the resulting harm is often very unclear, particularly in the case of exploration.⁸²

Turning first to the question of duty of care, it is generally accepted that there is some duty of care owed to other members of an expedition.⁸³ Determining what this duty is though is open to considerable interpretation and is analyzed dramatically differently depending on the forum in question.⁸⁴ At its most basic level, courts look to whether there was some relationship between the parties, whether the injury was foreseeable, and whether it is fair to impose a duty of care.

For fellow expedition members, it is generally clear that there is some relationship between the parties and this factor is not a particularly important one in establishing a duty of care. But in cases where injury occurs to members of another expedition operating in the same area this becomes potentially more interesting. It is common, in mountaineering particularly, that many expeditions may be ascending a peak on the same day often sharing equipment and gear setups, to take advantage of a weather window. In such cases, while there may be no legal relationship between parties, these separate expeditions are working closely together and accidents often occur that injure or kill the members of many different expeditions.⁸⁵ In such cases, while none have been before U.S. courts, it is likely that even when no legal relationship exists between the parties the de facto relationship created by their cooperation would be sufficient to create a duty of care and open the door to potential negligence actions.

Once courts have established a relationship between the parties, they then turn to whether the injury in question was foreseeable. This is probably the most important element of a duty of care analysis in the exploration context. In order to owe a duty of care to another party, courts find that the injury must have been reasonably foreseeable given the circumstances. Not all risk needs to be guarded against: actors need not consider every bizarre, extremely improbable outcome of their actions as a potential basis for liability. Instead, only risks that can be reasonably foreseen are within the scope of the duty of care. If there is a foreseeable injury to a

82. See, e.g., Dylan B. Kletter, Note, *Negligence in the [Thin] Air: Understanding the Legal Relationship Between Outfitters and Participants in High Risk Expeditions Through Analysis of the 1996 Mount Everest Tragedy*, 40 CONN. L. REV. 769, 780–81, 785 (2008).

83. See, e.g., Rupert Grey, *Expeditions: The Legal Framework*, in EXPLORATION HANDBOOK 117, 117–21 (Royal Geographical Society, eds. 2004), <http://www.rgs.org/NR/rdonlyres/4E73ED15-EBDA-4897-880D-5965D72AB42C/0/HBSRElc.pdf> [<https://perma.cc/K33R-C7HE>].

84. See, e.g., Ammie I. Roseman-Ott, *Recreational Activity Liability in Hawai'i: Are Waivers Worth the Paper on Which They Are Written?*, 21 U. HAW. L. REV. 715, 719 (1999).

85. See, e.g., PETER ZUCKERMAN & AMANDA PADOAN, BURIED IN THE SKY 142–46 (2012).

third party, preventative action to either avoid the risk or protect against its occurrence must be taken.

In the exploration context, the question of reasonable foreseeability is a particularly interesting one. Given the high rate of what outsiders might view as extremely improbable, catastrophic accidents, there is a strong argument that what is reasonably foreseeable to professional explorers is a far broader category than might be seen in the average foreseeability analysis. While the failure of one mountain climber to arrest after he falls, and the subsequent death of seven others as he drags the remainder of his team down the mountain and sweeps another team along with them, might seem like a bizarre and improbable outcome to a normal person, in the context of exploration these kinds of cascading accidents are very common. Thus, foreseeability in exploration has a far reach.

The expertise of the explorers is a key element in determining exactly how far this foreseeability reaches. For a multi-expedition veteran who is well-acquainted with the causes and consequences of accidents, many different outcomes may be reasonably foreseeable from any given safety lapse. However, for someone on their first expedition, what is reasonably foreseeable given the same initial circumstances is likely much smaller. Thus, those with more knowledge and expertise are likely to be held to higher standards of care in the sense that they should be able to anticipate, and to some extent prevent, more adverse events.

Assuming that there is foreseeability and a duty of care is established between the parties, the standard that actors are held to is one of “reasonable prudence.” This standard requires that parties act “reasonably” and in accordance with idealized community standards. Importantly, actors are compared with other reasonable persons within their own specialty, thus explorers would be held to the standard of another reasonably prudent explorer acting in the same circumstances. This standard then, like the foreseeability standard, becomes stricter for those with more experience. As expertise is established, explorers will be compared with other equally expert parties in determining reasonable prudence. In general, the more expertise, the higher the degree of care the parties should show to meet the reasonable prudence standard. It is worth noting that regardless of the degree of expertise involved, this reasonable prudence standard is one that it is very easy to run afoul of in exploration contexts. While the idealized “reasonably prudent” explorer may always remember to check every piece of gear, tie their shoelaces, and let everyone else know that as much, in reality adherence to this standard is less perfect. While explorers may know the applicable safety standards, they frequently make mistakes or engage in shortcuts. These small errors may be enough to show violation of the reasonable prudence standard, even in cases where unwise safety shortcuts may be a community norm. This broad scope introduces a huge world of potential liability for explorers, one where a simple mistake may result in attenuated legal liability.

Before liability can be established based on a breach of duty, it must be clear that this breach of this duty directly caused injury to another party. In exploration contexts, and many others, this question of causation is often a difficult one to prove. While in an idealized world, A clearly causes B which then leads to C, in the real world of cascading accidents, it is rarely this cut and dry. Instead, a small action coupled with a random natural event may lead to a third outcome. In these cases, determining that the initial action, even if it clearly violated the duty of reasonable prudence, caused an eventual injury is very difficult. The degree of separation between the initial action and the eventual injury is often an important factor in analysis of causation. Intervening events, if they do not clearly flow from the initial action, can sever the chain of causation.

In sum, negligence is likely to be found in exploration when a relationship exists between the parties (almost always the case for fellow expedition members), the injury was foreseeable (the scope of this is broad given the common occurrence of cascading accidents in exploration), the defendant failed to act with reasonable prudence (including the smallest deviation from safety protocols) and this causes the injury of another. This creates an incredibly broad cause of action and it is no surprise that negligence suits are the most common in the litigation of exploration, opening explorers up to liability for very minor errors and “normal” accidents.

Defenses to negligence claims do exist of course, the most relevant one in the case of exploration being the assumption of risk. Many states apply the assumption of risk doctrine to extreme sports, finding that the risk of injuries in extreme sports is assumed by deciding to participate in that activity in the first place.⁸⁶ Under the assumption of risk doctrine, anyone engaging in an extreme sport assumes the risk of participating in the activity and thus cannot pass off liability to others.

This assumption of risk doctrine applies only to extreme sports though. While many expeditions would easily fall under this mantle—diving, mountaineering, etc.—there is a significant class of exploration for which it is less clear. On scientific expeditions that are merely engaged in fieldwork for an extensive period of time, perhaps using vehicles to transport themselves and their gear, there is a good argument that this should not be considered an extreme sport at all. Some have defined extreme sports as either those “in which risk is the primary allure or those where serious injuries occur frequently enough to cast doubt on the sports reasonableness.”⁸⁷ In this case, the assumption of risk doctrine would not apply and available recovery for personal injury would be broader.

Moreover, the definition of extreme sports is generally understood to include recreational activities.⁸⁸ Exploration takes place in a gray area be-

86. See, e.g., Greer, *supra* note 53, at 93; Horton, *supra* note 62, at 611.

87. See Horton, *supra* note 62, at 653.

88. See *id.* at 652.

tween recreational and commercial—explorers are often funded through various grants and sponsorships, making the activity one that would in most cases no longer be considered recreational. In these cases, the assumption of risk doctrine would be less applicable and negligence actions even less defensible for explorers. Couple that with fact that assumption of risk is not a total defense to negligence—it may reduce the claim but in case of recklessness or when the plaintiff did not contemplate the *specific* risk that caused their injury these actions will still be successful—and assumption of risk becomes an even less useful defense. This is unfortunate because in many ways the assumption of risk doctrine represents a codification of explorer's own ideals of personal agency and responsibility.

In addition to assumption of risk, express waivers of liability may also serve as a defense to negligence actions. It is common practice for commercial expeditions taking paying customers to require that participants agree to waive liability for any accidents that may occur. The degree of liability being waived depends on the individual company and expedition but often is a complete waiver of any liability arising during the activity. Professional explorers likewise often sign liability waivers, though these tend to be directed to waive liability to the organization funding their activity. Waivers of liability between members on an expedition are less common.

Whether such waivers are upheld in court is strongly dependent on the court in question as well as the particulars of the agreement. In general, contracts are held to be unconscionable, and void, when the contract essentially forces one party to agree by providing them with no meaningful choice coupled with terms that are unreasonably favorable to the other side.⁸⁹ In making an unconscionability determination, courts look procedurally to whether there were elements of oppression or surprise in the contract signing and substantively to whether the agreement allocates risk in a way that is unfair or unexpected.

Courts in different states have taken very different stands on the waiver of liability for dangerous recreational activities. In some places, such waivers are given little scrutiny and largely held to stand. In other places, liability waivers at ski resorts, for example, have been struck down on the basis that there is some amount of liability that can never fundamentally be waived away.⁹⁰ The validity of liability waivers then will depend largely on the forum in question, though it is worth noting that in cases of clearly negligent conduct such waivers will not provide a defense to negligence.

Despite the broad bounds of liability that explorers may be subject to, courts have made attempts to reign in just how far negligence actions can

89. See, e.g., *Lhotka v. Geographic Expeditions, Inc.*, 104 Cal.Rptr.3d 844, 848–49 (Ct. App. 2010).

90. See, e.g., *Dalury v. S-K-I, Ltd.*, 670 A.2d 795, 798, 799 (Vt. 1995); Greer, *supra* note 53, at 93.

reach. For instance, there is a longstanding principle that mariners must come to the aid of others in distress at sea.⁹¹ This principle has since been codified in both U.S. and international law, however, U.S. courts have been reluctant to impose an affirmative duty to rescue on ships.⁹² Thus, while statutorily required to do so, sailors who do not go to the aid of a ship in distress are unlikely to be found to have breached a duty of care and be liable for a negligence action.⁹³ This is worth noting as a major exception to negligence law, which generally finds that failure to comply with a statutorily created duty constitutes *de facto* negligence.

However, these exceptions to the impositions of duties on explorers are rare and the potential for negligence lawsuits is high. In light of this, a key question then becomes how do explorers change their behavior in response to the potential for liability lawsuits? Does the threat of litigation limit the choices they make? Or force them to take preventative action? No concrete academic work has been done on this subject to date, so these questions remain unanswered for now.

C. *Social Protections Against Expedition Risk*

Earlier we asserted that the question of liability in exploration is a delicate balance between the interests of risk taking individuals and the economic interests of society as a whole. Negligence lawsuits explain how individuals can shift risk between themselves, but what is the responsibility of society to reduce the potential risks to explorers and other members of the public? Historically, there was little legal doctrine to form the basis of a duty on the part of society to explorers. But as laws have changed and evolved to aggregate risk on a societal level and reduce risks to individuals,⁹⁴ explorers are increasingly the beneficiaries of societal help in various forms.

When explorations encounter the catastrophic injuries and accidents that in some ways they are defined by, they often turn to outside assistance for aid and rescue. In many cases, given the remoteness of the expeditions, such assistance is incredibly difficult, dangerous, and expensive to execute. This raises several questions: first, to what degree can explorers count on outside assistance in the form of search and rescue efforts should they need them. This question yields dramatically different answers in different countries and in public versus private areas. The second question asks to what extent search and rescue should be available to explorers. Is it the responsibility of local countries and taxpayers to support rescue ef-

91. See Marilyn Raia, *Rescue at Sea*, PAC. MAR. MAG. (July 2015), <http://www.pacmar.com/story/2015/07/01/maritime-law/rescue-at-sea/357.html> [<https://perma.cc/2ZX4-DE5A>].

92. See *id.*

93. Of course, there are certainly situations where the ships could be close enough and the rescue easy enough that to not carry it out would constitute a breach of duty.

94. See Simon, *supra* note 9, at 177.

forts for dangerous activities? Lastly, are rescuers liable for any additional injuries caused in the course of a rescue?

The legal regime governing search and rescue operations varies dramatically from country to country, and even activity to activity. The United States has one of the most liberal search and rescue regimes, enshrined in the National Search and Rescue Plan.⁹⁵ Under the plan, the federal government is obligated to provide search and rescue services and is prevented from charging those using the services for any of the costs of the rescue (unless there is a criminal element to the reported incident).⁹⁶ The only case in which the federal government may seek to obtain rescue costs from those rescued, or to pursue criminal sanctions, are when the rescue call was false or fraudulent.⁹⁷ The rationale behind this policy is that charging for search and rescue operations would act as a potential deterrent to calling for help, likely resulting in increased loss of life.

Current search and rescue efforts are further legally protected through Good Samaritan statutes that immunize rescuers from any liability arising from their actions. As long as rescuers act as a reasonably prudent person with their training, they are immunized from liability for any unintended consequences of their actions. While these laws vary by state, medical professionals are generally also immunized from liability as long as they are acting according to their training either under Good Samaritan laws or additional state statutes. Additionally, in some states medical professionals or other witnesses to an emergency are required to act by a state duty to rescue law.

However, this liberal policy of search and rescue is an expensive one,⁹⁸ and one that routinely is the matter of significant public controversy whenever high-profile search and rescues, such as the rescue of the Kaufman family, are completed. There is no easy answer or general consensus in the public on what degree of responsibility the federal government should assume and what cost they should be willing to take on to save a single life. Despite this, there have been no real challenges to the current federal policy of no-charge for rescue, and it seems likely that this policy will continue in place for the foreseeable future.

Some states, however, have enacted their own cost-recovery statutes that allow them to pass on rescue costs to those being rescued in certain circumstances. In general, these states will require those rescued to pay the costs if the rescue is the result of any reckless action.⁹⁹ In New Hampshire, reckless action includes any member of the party not having proper

95. See Anne Villella & T.K. Keen, *Into the Wild: Can Regulation of Wilderness Recreational Activities Improve Safety and Search and Rescue Incidents?*, 21 JEFFREY S. MOORAD SPORTS L.J. 323, 330–32 (2014).

96. See *id.* at 331–32.

97. See *id.*

98. The National Park Service alone spent \$5.2 million on Search and Rescue efforts in 2012. See *id.* at 333 n.28.

99. See *id.* at 341–47.

equipment, food or water, not being proficient in outdoor skills, not being familiar with the terrain or weather conditions, not being physically fit for the conditions, or not knowing the limitations of the group.¹⁰⁰ Any member not able to meet any one of these conditions may be sufficient evidence of reckless activity to trigger the cost-recovery statute, giving very broad latitude to the state in cases where it wishes to pass on the rescue costs.

Despite the sweeping authority given under cost-recovery statutes, there is strong evidence that these statutes remain rarely used. Anecdotal evidence suggests that states are generally hesitant to enforce these statutes for fear that it may deter future rescue calls.¹⁰¹ However, in cases where there is clearly reckless action, states have at times carried out cost-recovery. Even in states that continue to adhere to the traditional federal method of no-cost for rescue, alternative methods to decrease the need for expensive search and rescue operations are increasingly being pursued. In many parks, mandatory safety education courses are required before backcountry permits will be issued.¹⁰²

Search and rescue is not the only instance in which society is effectively forced to foot the bill for risky individual choices. Any accidents resulting in medical care, international evacuation, even highly technical weather forecasts for remote locations are often carried out by the government solely to provide information to individuals going into these extreme areas. Explorers do not operate in a vacuum and it is at this intersection of personal risky choice and societal cost that many of the most interesting legal and theoretical questions arise. As with the Kaufman family and Laura Dekker, there are vastly differing opinions on what the role of society is to oversee personal decision-making and ultimately to prevent certain choices if they are deemed too risky or costly to society at large.

D. *Individual Assumption of Risk*

Despite the legal answer to this allocation of liability for accidents, a vast majority of explorers seem to have developed their own answer to this question: it is a personal choice to undertake the high risks inherent in exploration, and as such, the only one to blame if they are injured or killed should be themselves.¹⁰³ These ideals of personal responsibility in many ways define the field of exploration.¹⁰⁴ However, while a theoretical ideal of personal responsibility may be a strong one in explorers themselves, ultimately in the face of death or serious injury the desire for redress often wins out, particularly among the surviving family members.

100. *See id.*

101. *See id.*

102. *See id.* at 347–48.

103. *See Simon, supra* note 9, 191–92.

104. *See id.*

In theory, the high level of risk in explorations creates interesting problems for the law. While explorers may themselves believe in the personal assumption of risk, the U.S. legal regime turns this into a choice that has legal impacts for society and for other explorers. These consequences are generally ones that are not considered by explorers, who are more concerned with preserving their own personal agency. To illustrate this in more detail, we now turn to several specific legal actions that are not only those most commonly seen by explorers but also demonstrate how the legal system works to apportion risk and responsibility in exploration.

Looking at liability in exploration then in sum, we are faced with two major themes: that the risk inherent in exploration makes explorers uniquely subject to negligence actions, actions that often force explorers to rethink their own ideals of personal assumption of risk; and that our current age of regulation, in the case of the United States, has created a situation that both provides explorers with previously unobtainable support but in turn limits what risky activities they may engage in.

III. EXPEDITION PRODUCTS

While dealing with catastrophic accidents and their fallout is the most obvious application of law to exploration, the major intersection of exploration and law in fact generally occurs after the exploration itself is over. Explorers are then confronted with the challenges that come from trying to use the products of their exploration.

Exploration occurs at the extremes of human ability and of our global environment. These extremes may be unattainable without taking on the risk, and reality, of catastrophic accidents, but in turn, the scientific discoveries and media products obtained from the frontiers of our globe are often worth the risk. From new understandings of human physiology, to revealing the impact of human activities in the far reaches of poles (e.g., mercury and nanoplastics) and the discovery of biopharmaceuticals that may help to fight major global disease, exploration can yield groundbreaking discoveries and insights.¹⁰⁵ These products of exploration raise a different set of ethical questions: what rights should explorers have to the outcomes of their expeditions, and what should the relationship between exploration funder and explorer be?

Generally speaking, exploration today has two major outcomes: scientific discoveries and media products. Both of these are potentially very lucrative and wide reaching, and determining who has the rights to these is an important legal question that often pits very wealthy commercial interests against explorers and local populations around the world. In this part, we look more closely at various expedition outcomes to understand the legal structure, as well as the underlying social understanding of responsibility, that governs them.

105. See Miller, *supra* note 13, at 36–37.

The questions of rights allocation are particularly interesting in the context of expedition funding. In the realm of media rights, for instance, it is very common for publishing companies to provide money to expeditions in return for the rights to any media assets that may come out of the exploration.¹⁰⁶ However, these companies go to great lengths to ensure that they have no responsibility to expeditions beyond this initial outlay of capital. Detailed waivers and contracts provide that the granting companies have no responsibility to help expeditions in the event of any accident.

In this way, modern exploration is a troubling endeavor. Explorers are essentially unpaid and unprotected. If they are lucky, they can obtain enough funding to cover the costs of their expeditions. If they are even luckier, they can garner some fame in the process and help ensure future expeditions get funded. In return, though, these explorers are usually required to sign over the rights to any potentially profitable outcomes of their exploration to the organizations funding them.

If we think that exploration is a societally valuable endeavor, which as discussed above there is a strong historical argument for, it is interesting that in the current legal environment any exploration occurs at all. Between the liability assigned to explorers in the event of any accident and the lack of personal rights to expedition outcomes, explorers operate in a legal gray area where they have a great deal of responsibility and risk, but little protection and little benefit (aside from personal achievement).

A. *Scientific Discoveries*

Some of the greatest scientific advancements of the modern era were the result of boundary pushing exploration: from Darwin to Humboldt, explorers have helped to shape our understanding of the natural world around us today.¹⁰⁷ While early explorers played an important role in making scientific observations, ultimately “discovering” many of the species that we know today, the relationship between exploration and science has only grown closer in recent years.¹⁰⁸ With few uncharted lands left to explore, or mountains left to scale, explorers have increasingly turned to scientific objectives as a way both to continue to push the boundaries of human understanding as well as to distinguish their work in a time when many “firsts” have already been achieved and to signal a positive moral motivation versus colonial expansion or natural resource extraction. The increasing importance of science in exploration was noted in the introduction to the *Oxford Book of Exploration* in 1993:

106. See *infra* notes 121–24 and accompanying text.

107. See generally Felix Driver, *Modern Explorers*, in *NEW SPACES OF EXPLORATION: GEOGRAPHIES OF DISCOVERY IN THE TWENTIETH CENTURY* 241, 241–49 (Simon Naylor & James Ryan eds., 2010).

108. See *id.*

The most significant role of exploration through the ages, however, has been the advancement of knowledge For me, the great scientific explorers like Darwin, Humboldt, Wallace, Bates, and Banks are the real heroes. Their modern heirs are no less to be admired. Not only do they often endure far more mortification of the flesh in the course of pursuing their scientific objectives, but their efforts produce something of lasting value In this sense, if in no other, the age of real exploration is only now dawning.¹⁰⁹

That scientific discovery is not only motivated by desire for personal accomplishment, but also by the hope that it will be of use to society at large is an important point here. Exploration in its most pure sense is generally not a commercial enterprise. Instead, individuals chose to push their own limits in order to gain a greater understanding of the extremes of our world. The majority of such explorations are funded through grants from private non-profit organizations (i.e., National Geographic Society) and in-kind through equipment sponsorships. The goal of these explorations, then, is advancement of the knowledge of humankind, not profit itself. Increasingly, funding for expeditions requires clear and documented explanations of how projects will have broader beneficial impacts for society as well as positive media exposure.

That explorers wish to contribute to society as a whole is evidenced in the increasing movement by expeditions to make their scientific findings available to the public online. The idea seems to be that it is the very few individuals who are able to reach the remote and extreme corners of our globe have some duty to report back to the rest of society. Exploration, while once tied largely with colonial land-grabbing, has come to be understood as an activity that should be carried out for some sort of greater good.

Explorers themselves abide by these ideals. While some may work on commercial enterprises in order to have a regular income, this is viewed as ancillary to the work they are passionate about: exploration for exploration's sake. For the advancement of human knowledge and understanding of our environment.

This self-imposed duty to society as a whole is an ideal one though, and one that in reality often comes into conflict with a desire for sustainable finances. The discoveries that are yielded on expeditions often have the potential to be very profitable. Determining ownership to the various rights at play in exploration is something the legal system is adept at. However, balancing the interests of private parties generally makes no account for what may be beneficial to humankind as a whole. Here again then, exploration brings us to a question of private interest versus broader social responsibility. Instead of wondering what the responsibility of soci-

109. ROBIN HANBURY-TENISON, *THE OXFORD BOOK OF EXPLORATION* xv (1993).

ety is to rescue explorers, here the question becomes what is the responsibility of the explorer to the greater societal good? Our current legal regime helps illustrate what the de facto answer to that question may be.

The answer to this question is particularly clear in this world of scientific discoveries. Some of the most profitable, and controversial, scientific discoveries stemming from exploration are biological compounds that become important resources because of their chemical properties. From rubber to many current pharmaceuticals, explorers have played an important role historically in bringing back compounds from their journeys that become cornerstones of modern society.¹¹⁰

Such discoveries have not been without costs though: local indigenous populations generally knew about the uses of these biological resources long before European explorers and were often the ones who showed the explorers about the useful properties of a specific plant.¹¹¹ This cultural knowledge was then exploited by explorers, who brought the knowledge back to their own cultures. The biological resources in question often then became indispensable to western societies. The resulting exploitation changed the face of the environment and culture of indigenous peoples, who benefitted little, if at all from the arrangement.¹¹²

Such “bioprospecting”¹¹³ has become an increasingly discussed topic in Western academic circles, with an acknowledgment that such use of traditional indigenous knowledge for outside commercial ends is on some level exploitative.¹¹⁴ But to what extent do indigenous peoples “own” this knowledge? Legally, it is unlikely that they will ever own every specimen of a crucial plant, but do they own their knowledge of this plant? Is some sort of compensation due when this knowledge is used to fund a vast commercial enterprise or create a new and life-saving pharmaceutical?

The answers to this question are twofold: there is a legal answer and an ethical one, and the two are not necessarily connected. This becomes then a tricky line to walk for explorers, who may be justified legally in certain actions, but ethically their behavior is slightly less clear.

Historically, little to no protection existed for indigenous communities’ intellectual property. Explorers, and others, were free to use native communities to obtain useful information without any compensation. Today, efforts are being made to create new regimes to ensure that tradi-

110. See DRIVER, *supra* note 5, at 24–47.

111. See IKECHI MGBEOJI, GLOBAL BIOPIRACY: PATENTS, PLANTS, AND INDIGENOUS KNOWLEDGE 9–10 (2007).

112. See *id.* at 9–12.

113. See CORI HAYDEN, WHEN NATURE GOES PUBLIC: THE MAKING AND UNMAKING OF BIOPROSPECTING IN MEXICO I (2005); Cori Hayden, *Bioprospecting’s Representational Dilemma*, in THE POSTCOLONIAL SCIENCE AND TECHNOLOGY STUDIES READER 343, 343 (Sandra Harding ed., 2011).

114. See Barbara Tedlock, *Indigenous Heritage and Biopiracy in the Age of Intellectual Property Rights*, 2 EXPLORE: HEALTH & ENV’T 256, 256–59 (2006).

tional knowledge and communities are not exploited.¹¹⁵ Several international agreements have been signed that prevent bioprospecting in non-consenting countries or that institute profit sharing regimes for drugs that make it successfully to market.¹¹⁶ These protections, however, do not currently go far enough and bioprospecting at the expense of indigenous communities continues.¹¹⁷

Bioprospecting joins several other emerging issues in exploration with unique legal implications. Of note, also are the ramifications of the increasing use of remotely operated or autonomous drones and submersibles to collect scientific data, which has significant privacy repercussions.¹¹⁸ Additionally, the increasing use of members of the public to collect scientific data as a part of exploration projects raises questions of data quality and use in litigation.¹¹⁹

Universities and private funders have come up with solutions to the ethical problems associated with expeditions by requiring that explorers obtain the necessary permits and institutional review board approval. In this way, funders are able to cover themselves from any potential embarrassing actions explorers undertake. However, this solution to ethical dilemmas is just another way that explorers shoulder the burdens of exploration while private organizations get the gain.

B. *Media Products*

In 1925, Colonel Fawcett forged into the Amazon on his final, and fatal, expedition to reach the city of Z—a mythical and treasure-filled relic of another age that had captured the world's imagination.¹²⁰ His journey was made possible by an agreement with several American newspaper publishing houses, which provided significant financing for the expedition. In exchange, Fawcett would do the unprecedented and provide real-time updates from the field for their readership by dispatching native runners from his camps back to cities where their messages could be telegraphed.¹²¹ This type of agreement has become a common one: media companies funding explorers in exchange for news and media from their expeditions. Exploration is inherently romantic to the public, conjuring images of feats of daring, remote corners of the world and stoic and heroic explorers changing the face of the world.¹²² These factors combine to

115. *See id.*

116. *See id.*

117. *See id.*

118. *See* Annie Brett, *Secrets of the Deep: Defining Underwater Privacy*, 83 *MO. L. REV.* (forthcoming 2018).

119. *See* Annie E. Brett, *Putting the Public on Trial: Can Citizen Science Data Be Used in Litigation and Regulation?*, 28 *VILL. ENVTL. L. REV.* 163, 164, 166 (2017).

120. *See generally* DAVID GRANN, *THE LOST CITY OF Z: A TALE OF DEADLY OBSESSION IN THE AMAZON* (2010).

121. *See id.*

122. *See generally* DRIVER, *supra* note 5, at 199–219.

garner the world's interest and enthusiasm, rendering images of exploration inherently valuable.¹²³

In both the United States and the United Kingdom, the magazines of the geographic societies have become synonymous with exploration in the eyes of the public. The images in these issues are not so easily captured however: they are the result of complex legal understandings between media companies and explorers.

National Geographic Society (NG), arguably the most respected of the non-profit exploration funders, for instance, as part of its standard grant agreement, requires grantees to give them exclusive rights or rights of first refusal to the majority of the media coming out of the expedition. In theory, these agreements provide compensation to explorers for their images. In practice, however, several high-profile lawsuits suggest that explorers frequently believe they are not compensated adequately for the media they give to grantors.¹²⁴

However, organizations like NG hold an enormous amount of sway in the market and explorers are extremely unwilling to do anything that might damage their future relationship with these groups. As such, NG and others are able to get explorers to sign rights contracts that they may objectively be quite displeased with. Anecdotal evidence suggests that in the relatively frequent situations where explorers would like to dispute the fulfillment of these one-sided contracts anyway, they choose not to and forego rights that are theirs in order to retain good relations. Just a decade ago, relinquishing rights to imagery and story was more widely accepted given the potential to get it into the media via widely distributed outlets. Now, however, there are opportunities for self-publishing and promoting via new social media—often in real time from remote areas—restrictions on use of imagery and narratives are increasingly being brought to the forefront of discussions.

C. *Artifacts*

The discovery and claim of valuable artifacts today is a much less prevalent part of exploration today than it was 200 years ago, due to national and international law restricting what cultural artifacts can be disturbed.¹²⁵ However, exceptions do exist, most prominently in cases of treasure hunters and shipwreck claims. Several famous finds provide examples of how the evolution of the legal system has limited explorers' rights to their finds. Where once artifacts discovered by explorers were

123. *See id.*

124. *See, e.g.,* Greenberg v. Nat'l Geographic Soc'y, 553 F.3d 1244, 1247 (11th Cir. 2008); Faulkner v. Nat'l Geographic Enterprises, Inc., 409 F.3d 26, 30–31 (2d Cir. 2005).

125. *See* Mary Ann Becker, Comment, *Regulating the Business of Culture: The Abandoned Shipwreck Act—Can Preservationists, Salvors, and Divers Sail in Calmer Waters?*, 51 DEPAUL L. REV. 569, 570 (2001).

relatively clearly the property of explorers themselves,¹²⁶ today's legal regime has created an environment where many different parties may have cognizable claims to any discovered treasure.

An excellent example of this came in the wake of the American salvage company Sea Hunt's attempt to claim two sunken Spanish vessels. La Galga and Juno were sunk off the coast of Virginia in 1750 and 1802.¹²⁷ After spending years looking for these vessels, Sea Hunt was then forced to spend years in court defending their rights to claim salvage of the vessels. In July 2000, the Fourth Circuit Court of Appeals issued the controversial ruling (later upheld by the Supreme Court) that Sea Hunt had no rights to the vessels because Spain had never abandoned them.¹²⁸ The court awarded the rights to the wrecks to the Spanish government. This trend in decisions vis-à-vis artifacts matches with the erosion of explorer's own legal rights to the products of their expeditions.

The issue of artifacts is particularly contested when bones and ancestral burial sites are discovered. In these cases, property issues are tied with cultural and spiritual patrimony rules and norms.

IV. CONCLUSION

Exploration provides unique societal benefits, from the discovery of new species, to key ingredients in common medicines, to heroic stories that become cultural talismans, and to canaries in the coalmine of anthropogenic threats. However, these benefits come at a cost. Explorers must navigate an increasingly complex legal world in order to carry out expeditions. Our analysis shows that the potential liability for explorers, even in the face of the systemic accidents common in high-risk expeditions, is high. Additionally, common funding agreements and recent court decisions protect very few rights for explorers in the products of their explorations. Taken together, the legal regime governing exploration requires that explorers be willing to subject themselves to the risk of serious liability while at the same time recognizing that their personal rights in expedition outcomes are often very small. On its face this trend would seem to have pronounced impacts on how explorers behave, and what types of exploration they choose to engage in. Further research on the impacts of the litigation of exploration on individual explorers would help to clarify this pattern and the economic and social costs that it has.

126. *See id.* at 578, 581, 589–90.

127. *See* Sea Hunt, Inc. v. Unidentified Shipwrecked Vessel or Vessels, 221 F.3d 634, 638–39 (4th Cir. 2000).

128. *See id.* at 647.

