

Chapter 2

GROUP DYNAMICS

Exhibit Meetings and Expertise

Making exhibits is a creative act, and, like most creative acts, is best done by a small group with the passion, skills, commitment, and vision to see the project through to final completion. . . . Exhibits and their development are human and, often, irrational and emotional acts, not given to easy prediction or regulation.

Creating Exhibits¹

THIS CHAPTER IS ABOUT THE EXPERTS THAT PLAN EXHIBITS. BY CONTRAST to what we saw in the last chapter, today's National Museum of Natural History (NMNH) exhibits are planned not by scientists and their departmental staffs but by highly interdisciplinary teams from different museum offices and departments. Where the last chapter was based on archival research, here I use grounded ethnographic observation and interviews to show how exhibit projects create a unique microcosm of the museum, where ordinarily siloed disciplines and modes of communication mingle in collective translation, negotiation, and imagining.

I begin by describing some of my early impressions and general findings about the ways that disciplines and expertise are siloed in the museum through space, communication styles, and perceived (and real) frictions and hierarchies. I include some of the ways that my own positionality played into these observations. I then describe how expertise manifests through the exhibit-planning process, namely through different modes of communication in textual production and speech. I draw on sociologist Erving Goffman's work on role performance and institutional interactions,² anthropologist Frederick Bailey's work on the anthropology of politics,³ literary theorist Homi Bhabha's work on "interstitiality,"⁴ and anthropologists Jennifer Shannon and Douglas Holmes's work on para-ethnography⁵ to frame these discussions. I show that exhibit meetings are a unique space of inherent friction that can potentially generate fruitful

complementarities. In fact, it is often through tension and difficult conversations across boundaries of expertise that team members describe being inspired to work creatively.

First Impressions and Institutional Trust

I began my research at the Smithsonian in the middle of a sticky DC July in 2012. Though a native east-coaster, I was struck, having just come from Vancouver, by the soupy hot air, the men and women sweating their way down the open avenues in their suits and tailored dresses, and the white-columned monumental structures looming over the streets. It's impossible not to notice that you are in the nation's capital. The Smithsonian's museums sit squarely in the middle of this web of flags, national monuments, and federal offices. I felt immediately that conducting research at and about the NMNH, the third of the Smithsonian's buildings built on the National Mall, physically and spatially carried the weight of this national context.

Approaching the building on my first day, I felt a jittery excitement as I walked across the scorched grass from the Metro, flanked by the Capitol to my right and the Washington Monument to my left. It is, after all, the Smithsonian. Even after working at the museum for some time, it's hard not to have a little glimmer of pride when you approach the iconic building or tell others at a cocktail party where you work.

The Natural History Building itself is immense. On my first day, black and green banners screaming "Titanoboa! Monster Snake," loomed large over the little popcorn vendors and line of men on bicycle carts offering rides to tourists. After climbing the entry stairs and passing through a security checkpoint, I entered the Rotunda, facing a giant elephant. To my left was a visitor services desk, and an IMAX ticket office beyond that. Hung all around the perimeter were a number of colorful banners indicating exhibit hall contents. To my right was the entrance to the fossil halls. Amid four marbled columns on this first floor were two giant signs in blue, "Ancient Seas: Ice Age" and "Fossil Plants," each bearing a little icon. Through the columns, beneath a large rectangular entry, is a hall labeled with a rounded evergreen sign that read "Dinosaurs and Fossil Mammals." The Rotunda was cool, and marbled walls and high ceilings gave it a feeling of airiness, even though it was swamped with visitors; their cacophonous voices filled the space with a constant reverberating drone.

This isn't where staff usually enter, however. I was meeting with Siobhan Starrs, an exhibit developer with whom I'd be working at the Constitution Avenue entrance, where staff typically meet guests or each other. To get there, I had to dodge lines of linked schoolchildren across the Rotunda to get to the vast and very new Ocean Hall, where I rode an escalator down to the ground floor. This area was brighter, with lower ceilings and a cream-colored tile floor and white walls. On either side of the space stood a large gift shop, one for kids filled with stuffed animals, toys, knickknacks, and bouncing balls; the other, more adult-centric with cherry-blossom teacups, eccentric ties and scarves, jewelry, and coffee-table books.

Through a large opening I found the Constitution Avenue back entrance, temporarily paneled in white construction walls. After shuffling around for a bit next to the Easter Island moai statue and watching some Kwakwaka'wakw coast dancing on a videoscreen at the base of the Haida totem pole that protrudes up from the lobby, I saw Siobhan. She accompanied me to the security desk, where she signed me in and gave me a month-long temporary badge till they processed my paperwork.

My experience with badges—mine having been delayed—was fairly typical. Badges are no small thing at the Smithsonian, not only because the logistics of getting one are so tedious and time consuming (try going to the Office of Protection Services [OPS] at the beginning of September or January for a real treat) but because while you have one, the world seems to be your oyster. You can meander in through back entrances, around the labyrinthine back halls, through locked security doors, up and down “staff only” stairwells or elevators. It is a rude awakening when your badge expires, as my temporary one did in October. Suddenly, because you've forgotten entirely what it was like without a badge, the building seems an extraordinarily (if fittingly) fortified place.

Badges are about institutional trust: “The Personnel Security & ID Office ensures that personnel responsible for the care of the national collections, the safety and security of visitors and employees, information systems control, and administration are trustworthy, honest, and reliable.”⁶ As a “pre-doctoral Visiting Student fellow”—my official status—I was considered “Non-Critical Sensitive.” But like all new staff, I required a pre-appointment background check and was fingerprinted. The U.S. Office of Personnel Management was contracted to conduct an investigation, the results of which would determine whether I'd gain a Smithsonian affiliation. My “staff sponsor” at the museum had to fill out and sign an ID authorization form to take back to OPS to actually issue the badge. At NMNH, when I was first issued a badge, I had to report to the head secu-

rity manager, at that time Carl Taylor, who, in his very stately office and with a very friendly demeanor (and perhaps after offering you a Tootsie Roll), activated my badge for access to main doors in the building based on my department and security level. I was also going to receive a stipend, so in addition I had to report to the Office of Research and Training Services for more paperwork.⁷ After all of this, once I had a badge, I was free to come and go in most places. Of course there are many areas, such as Mineralogy or certain libraries, that require special access or keys.

Going back through my audio-recorded fieldnotes, I recall that I had an early encounter where my new badge had flipped itself around, so that the back showed instead of the front. Curator Matthew Carrano asked me jokingly if I was trying to conceal my Red badge. I quickly flipped it over and assured him, “No! It’s Purple!”

Not all badges are created equal, after all, even if they seem to open the same doors. There are three kinds of badges: Blue, Purple, and Red. Blue is reserved for staff, whether trust—temporary or on “soft” money—or federal employees. Blue badge employees are offered benefits like institutional health insurance and accrued paid leave. Purple badges are given to a wide range of people—interns, researchers, fellows, volunteers, or emeritus staff⁸—most of whom are there to learn or assist with research initiatives, but some, like volunteers, who also assist with outreach activities. Some receive stipends. Some work for free.

Red badges are not to be trusted. Well, I don’t really mean it that way. Red badges are for contractors (outsiders), and the institution doesn’t officially “trust” them. There are running jokes about Red badges among museum staff, “the Red badge of shame” and “the Scarlet Letter” being my two favorites. Red-badge holders are also not supposed to attend pan-institutional events where food and beverages are provided, so they’re technically not invited to the Smithsonian’s holiday party and other such occasions.⁹ I describe this stigma because, in fact, the Smithsonian increasingly hires contractors to undertake its work. This is one of the major changes at the institution and in exhibits development over the last forty years. It therefore seems an artifact of an earlier system (beyond the harsh daily reality) that those charged with some of the highest budgets and longest-standing work in the museum (architectural and media designers, for instance) and others involved in public outreach are not “trusted” by the institution’s security systems.

I learned about many of these oddities at happy hours with other young interns, staff, and fellows, or at the ritual museum gathering on Friday afternoons. The event is in many ways a remnant of what people sometimes call “old boys club” days, when primarily curators and scientific staff

met to have drinks on a Friday. It's had a number of iterations since it was founded in 1968, and at one point it was shut down and then reinstated by the secretary. Today the Friday gathering is one of the few times and places where you see something that approaches a complete cross-section of ages and disciplines. It's a biased and privileged sample, no doubt, for it still skews heavily toward scientific staff and staff involved with science departments.

Abby Telfer, who runs the FossiLab, invited me early in my time at the museum to attend these gatherings. My attendance became key to understanding the cultures at the museum, because all sorts of stories are exchanged, some of which are integral to forging and understanding relationships and many of which illuminate the workings of such a complex place. It is also a great place for solving problems or talking about seemingly crazy ideas you wouldn't pitch elsewhere. It is therefore an important kind of backstage space for social work.

To return to the status of badges, when I was first negotiating my position at the museum, it was agreed that as an ethnographer and researcher I would be much better off with a Purple badge. But I didn't really understand what that meant. It was at these gatherings that I first learned about the hierarchy of badges, along with many of the ins and outs of the museum and what was *really* going on with projects and people who attended.

It is, I also learned, very uncool to wear your badge around at social events or on the street. It's a very amateur, intern-y thing to do. Across Washington DC, it's only newbies who want to show off their new badges. I certainly wore my Purple badge in public for far too long before someone clued me in. Yet, in certain settings, when I met new people for instance, I would leave it on to ensure they knew who I was, and that I belonged. In 2014–15, after my predoctoral fellowship was over and as I wrote my PhD dissertation, I worked part time under contract with a Red badge. I almost always put it away when I was going to meet new people at events.

Observing Meetings and Institutional Cultures

Once I got settled in the Office of Exhibits, badge and all, I began observing the exhibition process. From the launch of the 10% phase of the *Deep Time* exhibit project in December 2012 to April 2013, I attended all twice-monthly two-day Core Team exhibit workshops, as well as Tuesday “standing meetings” for an hour and a half to two hours (often calling in or using video conferencing with the design and media teams). From April to

July I attended but only took basic play-by-play notes at the 35% process meetings (which continued through December).

During my time at the NMNH, I had the benefit of having an office in three different locations, and therefore I experienced three different “cultures” in the museum: Exhibits (September 2012 to June 2013), Paleo (June to September 2013), and the director’s hallway (September 2013 to August 2014).

During the bulk of my fellowship, from September 2012 to June 2013, my office was in Exhibits, on the second-floor mezzanine. In June, two new writers were brought on to the *Deep Time* project, and it became clear that my floor would be crowded. In addition, Michael Mason, my staff sponsor, had just left his position as assistant director of Exhibits to become the new director of the Smithsonian Center for Folklife and Cultural Heritage. Paleobiology curator Scott Wing graciously offered to cosponsor me for the remainder of my time at the museum and, with the blessing of the chair of Paleobiology, Brian Huber, found me desk space in Paleobiology; I was very lucky to have had an office in Paleobotany from June to September.

My move from Exhibits to Paleo, as it’s colloquially called, also brought my own positionality to the fore. I noticed upon moving to Paleo that I felt more comfortable in that department. Having been raised by a professor, and having spent all of my adult life immersed in university culture, it was hard not to notice that my own background shaped my bias toward a department cluttered with old books and papers, microscopes, fossil specimens, and card catalogues . . . and staff that could get away with quirky t-shirts tucked into blue jeans. It was also populated, especially over the summer, with other fellows working on or recently completing PhDs. Despite an undergraduate background in the visual arts, I found Exhibits a bit harder to get used to.

Three very different institutional homes gave me a good introduction to some of the different work cultures in the museum, but my experience remained partial, because, as educator Amy Bolton put it, “there isn’t just one culture, there’s like 10 cultures in this building.”¹⁰

Exhibits

Exhibits melds office and artist culture. Its spaces are literally divided this way. On the south side of the hallway are two floors of offices. The mezzanine level is made up of a long hallway with a set of individual office doors on one side (where my office was located), and the ground level is an

open room subdivided into a walkway by flanking cubicles. On the other side of the hallway are the graphics lab and a large shop for carpentry, model-making, printing, lighting, and other in-house production work, mostly for temporary exhibits, way-finding signage, and permanent gallery upkeep.

Exhibits culture is certainly more artistically oriented than most of the museum's other departments, but there are different modes of working with exhibits in different Exhibits subdisciplines. Many of the staff are exhibit developers and project managers, who coordinate disparate departmental staffs and expertises across the institution to manage exhibit projects and their content development. They are often found hurrying from meeting to meeting—with buildings and operations managers, artists and designers, directors of various programs and departments, and curators of all the museum's seven research areas. Graphics specialists, model-makers, and lighting and audiovisual (AV) specialists are variously more like experts in craftsmanship; staff in graphics, AV, and the production side of Exhibits even have a kind of uniform—they are issued Smithsonian work shirts, while project developers and managers, designers, and writers tend to wear office- and meeting-appropriate attire or comfortable clothes for getting office work done. Designers and exhibits writers in the

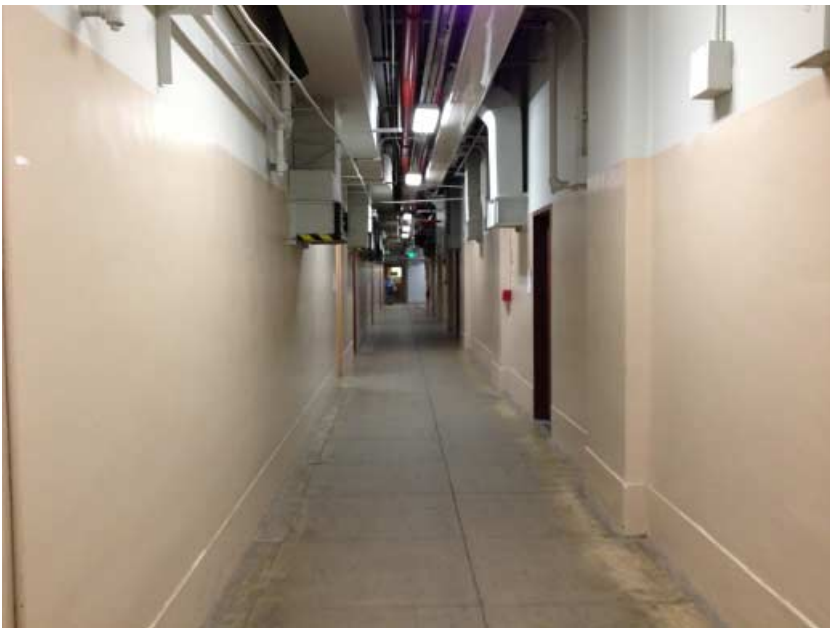


Figure 2.1. Exhibits hallway, May 2013. Photo by the author.

department in some ways fuse the two kinds of work, translating ideas into textual and aesthetic designs to then be fabricated by production staff.

The office spaces in Exhibits are plain—carpeted downstairs in gray and upstairs in burgundy, and painted in light yellows, beiges, or greens—but full of colorful remnants of past exhibitions, such as old exhibit models, graphics panels, and project binders. The walls are decorated with prints from previous exhibitions, alongside people’s personal photos, calendars, bulletin boards dotted with Post-it notes, and trinkets. The production spaces feel and look like workrooms—Graphics with large-scale drafting tables and tall open storage spaces for printing materials, and the “shop” open, dusty, and filled with carpentry equipment, partially finished products, and sheets of glass. Everywhere, whether in the offices or labs, piping and wiring is exposed along the ceiling, mainly by virtue of being on the ground floor of the “old building.” A constant nondescript rumble of generators and piping reverberates through the spaces. The whole Exhibits hallway is also near the main shipping and receiving doors, where I entered the building most days, and so lots of heavy-laden carts wheel down the concrete flooring. This lends Exhibits a feeling of constant motion and energy. This can also be a source of entertainment and frustration, especially when a set of carts or garbage cans thunders past meeting room 71A, interrupting conversation for a time.

Paleobiology

The Department of Paleobiology is located in the East Wing of the museum; this part of the museum was added in the 1960s and was designed to have collections massed in the center of each floor. Windowed offices, doubling as labs, line the outer walls. Between the offices and the collections is a continuous hallway. Partly because I occupied an office here in the summer, a time when many of the scientists are away in the field, the East Wing felt quieter, and sometimes empty.

This is also a result of the kinds of schedules different departments have. Many Exhibits staff take off every other Friday by working an extra hour each day—common practice in Washington, DC. Many production staff, along with many other buildings and facilities staff, are required to come in every day at 7:00 or earlier in order to work in public spaces before they open.¹¹ Others in Exhibits come into the museum later, but they also leave much later at the end of the day. During big projects, many Exhibits staff say they work double-time, overnight, or early morning hours.¹² They



Figure 2.2. Paleobiology hallway, July 2013. Photo by the author.

also increasingly work odd hours to accommodate schedules of other team members, particularly curators, on exhibit projects.

Curators, research staff, and students have more flexible schedules and aren't assumed to be in the building during set hours, although, as with many academics, they tend to describe themselves as working on or thinking about their research "all the time." Exhibits staff were held to stricter schedules—more often working from home on official telework. The differences in thinking about schedules and workflow in the institution created tension on both sides of this divide. Curators often described feeling inundated with meetings and Outlook calendar invites. (Scott Wing and I joked that if I was going to authentically portray him in this book, I should document him sitting at his desk using Outlook.) Exhibits staff often feel frustrated with curators' lack of fixed schedules and their reluctance to use their Outlook calendars properly, if at all. It is a distinct point of privilege not to have to keep regular hours at the museum.

These divides in schedule and workflow are not just between research-oriented departments and those with a practical focus, but *within* research departments. In Paleobiology, there was a similar divide between curators and "support staff." Support staff include research assistants; preparators, who assist research and collections efforts by assisting with work

out in the field, and upon returning to the museum by unwrapping, cleaning, excavating, and mounting fossil specimens; administrative assistants; information technology specialists; scientific illustrators; and collections managers. The term “support staff,” though a formal institutional term, was often used reluctantly, because it alludes to stratification or hierarchy among employees.

The Director’s Hallway

The year after my fellowship, as I analyzed and wrote up my research, I worked part time as a research assistant for a project through the Consortium for World Cultures. The consortium was a central Smithsonian program administered through the Smithsonian Castle, which houses centralized Smithsonian administration, but I was given an office in the NMNH director’s hallway. The director’s hallway is another place entirely—it’s nicely carpeted, looks freshly painted, and is the sort of place where people wear pencil skirts and ties. The polished and more formal setting is fitting because the director’s hallway is where the museum’s executive staff and development team have their offices. It is often simply re-



Figure 2.3. The director’s hallway, November 2013. Photo by the author.

ferred to as “upstairs.” It is not uncommon in meetings and interviews for staff to express frustration with people or decisions coming from upstairs.

Other Institutional Cultures and Contexts

There are also other museum contexts and institutional hierarchies that I will not focus on at length in the book—namely those of race and gender. Especially in research departments, there are more men than women. This is particularly true for curatorial positions. Male staff on the whole seem to have greater freedom and encouragement to speak out, not just in exhibit meetings but anywhere in the institution. Overall, the NMNH has not had an easy transition from its “old boys club” days to its culture of commitment to “strengthen the hiring process and grow the diversity of the staff and volunteers through targeted recruiting.”¹³

Many of the museum’s departments and offices are remarkably and noticeably white. Many staff of color work in security positions. A survey conducted by the Office of Policy and Analysis in 2012 found that only 56 percent of respondents felt that diversity was valued at the NMNH. Of the 707 NMNH staff, visiting fellows and scholars, interns, volunteers, and contractors who participated, 72 percent identified as White only, while 10 percent identified as Black or African American only, 7 percent Hispanic (all races), 6 percent Asian only, 5 percent Other. There was “low agreement,” only 25 percent, that recruitment of senior positions was from a diverse candidate pool.¹⁴ I did not focus on these issues in my research, and to delve into them properly would require another book. But I think it is important to mention in my general impressions that other broader institutional hierarchies permeate the museum.

Within curatorial departments, there are often tensions between subdisciplines and other factions that may be generational or topical. Although I noted this to some extent, it was not as prevalent in the early stages of the process as it can be in later phases. There are also dynamics between outreach-oriented departments that I was not fully able to capture during my research due to my placement in Exhibits. The most crucial tension is between Exhibits and Education. Education has been increasingly included in the exhibits process, and both departments feel committed to public communication, but there is ongoing discussion about how that happens and what aspects should be divided between the departments in practice.

A word here about departmental terminology. Throughout my time at the NMNH, I heard Exhibits and Education referred to colloquially as a “department” (as I have just done and continue to do in this book).

Paleobiology is in fact a department by Smithsonian terminology, but Exhibits is not—it is an “office.” Offices tend to manage logistical aspects of the museum, as opposed to collections and research departments. Another colloquialism is that terms such as “Paleo” and “Exhibits” have different meanings in different contexts. The term “Exhibits,” for instance, can at different times refer to:

1. A department/organizational unit within an institutional structure:
e.g., “I work in Exhibits.”
2. A physical space:
e.g., “I’m headed down to Exhibits,” or
3. The people who work there, either as
 - a. a group (noun):
e.g., “What do you think Exhibits will think about this?” or
 - b. the quality of the group (adjective):
e.g., “Exhibits people are more artsy.”

As a newcomer, it is gratifying to begin to conquer these new expressions. As with mastering other languages or expert jargon, it’s also easy to get overzealous and slip into using these new phrases in nonmuseum conversations; my friends outside the institution will never let me live down the first time I told them I was going to miss an event to hang out with Paleo people.

The fact that the building is so big and the departments so siloed, with their own cultures and jargon, is an important context for understanding the uniqueness of an exhibit project. Unlike other small organizations where you might know everyone and who does what, the NMNH is a giant and heavily departmentalized place. As Angela Roberts Reeder, exhibits writer, said, “I could have this job for another twenty years and still not have met everyone.”¹⁵ Exhibits bring together experts from disparate parts of the museum who, despite sharing a common goal, often do not share common assumptions or ways of working.

Meetings, Roles, and Power Dynamics

Typical meetings took place in either 71A, the primary Exhibits meeting room, or in the Cooper Room, a meeting room on the second floor of Paleo. It’s named after G. Arthur “Gus” Cooper, pictured in the portrait at the back of figure 2.1., who, as we’ll see in the next chapter, had a great influence on the department’s formation.



Figures 2.4a and b. “Chairs” of Paleobiology in the Cooper Room, 2013. Photos by the author.

My notes from the second workshop I attended in early January read:

Tuesday January 8, 2013

Deep Time Workshop 2

9:30 AM

The Cooper room is one of the few rooms “behind the scenes” that reminds you that the museum used to be a gentleman’s place. It’s unassuming and a bit worn, with a few remnants of December’s Paleo holiday party scotch-taped to the ceiling, but it’s lined with ceiling-high bookshelves and dominated by a large oblong dark wooden table, surrounded by equally serious chairs. A large portrait of Gus Cooper overlooks the room’s happenings, and the photographic line of succession of department chairmen lines the window-side wall. As people drift into the room just as it hits 9:30, members of the group arrange themselves around the thick table and seat themselves on burgundy leather cushions attached with tarnished brass tacks before shuffling the heavy chairs into comfortable positions. Unlike 71A, the closed-off, windowless, and fluorescent-lit room where so many meetings happen, this room is flooded with diffuse clouded wintery light passing through large-paned windows through which leafless branches sway in warm-for-this-time-of-year breezes. It’s the second workshop of many that will take place throughout the spring, and there’s a good amount of energetic postbreak banter exchanged as everyone greets each other and takes a seat. Scott [Wing] has brought a newly published foldout map from a geologic society that has a detailed description of the latest breakdown of the Geologic Time Scale. There’s some oooh and aaah-ing and agreement that we all ought to get one. Scott describes a few of the salient points notated by the diagrams. Eventually Siobhan [Starrs] chimes in with her calm but assertive “OK let’s get started,” and conversations lull.

Many meetings, in the morning or after lunch, and regardless of meeting room, began this way—participants sauntering in, a bit of show-and-tell, joking, and passing around snacks or candy for the meeting. Soon though, the group would be in thick and sometimes heated conversation about a range of topics, from engaging audiences and visitor affect to lycopod reproduction and the ways that the deep history of Earth is written in our bodies.

Exhibition plans are the product of years of collaborative work in these meetings between the Core Team, designers, and Extended/Advisory Smithsonian Teams. It is through conversations in these meetings that the exhibit’s conceptual framework, basic content, and spatial layout are debated, imagined, and formally articulated in document drafts.

The main people involved in planning the exhibit through the workshops as well as “standing meetings” every other week were:



Figure 2.5. Exhibit meeting in 71A, 2013. Photo by the author.

Core Development Team 2013

Kay Behrensmeyer, Curator of Vertebrate Paleontology, Exhibition

Curator, Initiative Lead

Amy Bolton, Education Specialist

Matthew Carrano, Curator of Dinosauria, Lead Curator for the Exhibit

Mike Lawrence, Chief of Exhibit Design

Angela Roberts Reeder, Exhibition Writer

Siobhan Starrs, Exhibit Developer/Project Manager

Scott Wing, Curator of Fossil Plants, Exhibition Curator

Reich + Petch (R+P)

Stephen Petri, Principal

Fang-Pin Lee, Senior Designer

Pauline Dolovich, Principal (R+P Project Manager)

Richard Lewis Media Group (RLMG)

Richard Lewis, Principal

Mark Ostrander, Director of Design

The R+P team worked with the exhibit developer/project manager and other Exhibits staff to set the agenda.¹⁶

In the 10% and 35% phases, each workshop had a set of goals, and usually the R+P team began by describing the work they had done, including “benchmarking”—looking at other institutions’ dinosaur halls, design or media techniques—or new drawings, which they presented to the group. At a number of workshops, in-house team members were also asked to make short presentations—for instance Angela Roberts Reeder, the writer, would speak on common exhibit label styles, or Kay Behrensmeyer would report on a number of museums she visited on her own that warranted sharing with the team. A series of semistructured discussions then proceeded around both the presentations and a series of topics that needed to be worked out.

For in-house exhibits, usually smaller-scale and mostly temporary halls, the exhibit developer or project manager, an in-house Exhibits staff member, set the agenda. The group then met weekly for an hour and a half to two hours and worked iteratively between the designers, writers, and curators in the same way as the permanent hall team did.

Official Roles

Each person at the table has a defined role in the exhibition process, but roles overlap, and anyone is free to speak on topics they want to contribute to. The main players are members of a “Core Team.” The Core Team is made up of a group of in-house staff most central to the process. Core teams vary in size and composition depending on the size and nature of the project. An exterior garden interpretation plan and signage might have a core team of three—developer/writer, designer, and horticulturist—while a project like *Deep Time*, or the Ocean Hall project, may have a team of seven members or more.¹⁷ The team collaboratively shapes all of the ideas, designs, scripts, content, and other documents that lead to exhibit development. An exhibit project is a huge time commitment for the Core Team. *Deep Time* Core Team members participated in two 2-day-long workshops per month, plus meetings with select members among themselves or with other staff. So what does each member do? These roles are often specific to each exhibit project, but I have tried to describe them generally as they were during the 10% and early 35% phases that I observed.

Exhibit Developer/Project Manager (Office of Exhibits)

The exhibit developer/project manager position is a complex one, perhaps the most complex of any of the Core Team positions. This person has to

have expertise in a wide range of areas, including visitor experience, 3D and 2D visual design, team leadership, scheduling, budgeting, and contracts—a huge undertaking for *Deep Time*. They need to grasp the overall arch of content development and direction among the team, as well as the complex production process.

Exhibit developers consider themselves audience advocates, expressing the visitor voice in meeting conversations. They are creative, have good people skills, and act as liaisons among the team, as well as between the team and everyone else in the building; they have to be able to speak every discipline's jargon at the museum. While they do not have to be a subject matter expert, they must become conversant enough to shape the exhibition's creative and content materials and then communicate and share the exhibit's core goals externally with both experts and outside stakeholders, such as potential donors or the press.

They are also charged with verifying with scientific staff all information produced in print or audiovisual materials. They are the main liaison between the scientists and the rest of the team. In the capacity of a developer, this person must also collate relevant materials for the team, including articles, literature, photographs, and other materials to be stored on a shared drive or shared online space, both for content and for team inspiration.

The project manager role also involves coordinating the project schedule, budget, and contracts, in addition to working with building and technical staff and collections managers on specimen access and preservation, coordinating purchases, loans, and donations for the exhibit. This includes ensuring that specimens are ready for exhibit and that paperwork is properly processed, as well as communicating building and collections needs to the rest of the team. Further, the role involves sharing exhibit documents and progress with the Core, Extended/Advisory and Approval Teams, as well as liaising with all other relevant staff in the museum. Thus, the exhibit developer/project managers tend to work as the primary in-house translators in the exhibit process. As the process progresses, they keep the team in line with the project's mission and coordinate all of the team members—their ideas, their personalities, and their schedules. They build consensus among the team and help the team to recognize consensus where it exists.

The combined exhibit developer/project manager role is thus particularly difficult, because it involves wearing two almost paradoxical hats—overseeing the big thinking and the creative movement of a project while also managing its budgetary and logistical constraints.¹⁸

Chief of Exhibit Design/Exhibit Designer (Office of Exhibits)

For temporary exhibits, staff designers may act as the lead designer, producing drawings and overseeing the entire in-house production of the exhibit. For larger projects, the designer is often working with a contracted design firm, as in the case of *Deep Time* and R+P. The in-house designer is therefore the expert involved in the call for proposals for the exhibit contract, the review process for choosing a contract design team, and providing in-house input on the design process. The in-house designer also coordinates with NMNH building staff on other aspects of the building and on conservation, accessibility, safety, and maintenance issues. The in-house designer also provides design approval and is an important voice at the table during exhibit meetings.

Exhibition Writer (Office of Exhibits)

In early phases of exhibit planning, and in the 10% and 35% phases that I witnessed, the writer has the heavy task of learning the topic, collating all of the comments and discussion from meetings with the team, and distilling them down into documents for circulation. These include a storyline and preliminary script, and later exhibit labels. These in turn receive comments from the whole team; the writer has to integrate these into the final document. This process can change depending on how each exhibition project manager shapes the writing process.¹⁹

The writer also shapes the tone and style of the writing, both in descriptive documents such as the statement of purpose and eventually in exhibit text. For *Deep Time*, just as I finished going to meetings, Exhibits took on two new writers, giving the lead writer a team of three writers to coordinate. As the exhibit and its content develops, the writer has to make sure the exhibit has a distinctive voice and a clear story that is understandable and that draws people in.²⁰ They are the main translators and communicators of exhibit content; yet, as I heard Angela Roberts Reeder and others describe, the contributions of exhibition writers go publicly uncredited, making it somewhat of a “hidden position.”²¹

Education Specialist (Office of Education and Outreach)

The education specialist informs the exhibit with regard to interpretation, accessibility, curricula or learning standards, and visitor experience. As an “audience advocate,” they also make sure that educational goals and standards are part of the team thinking and circulated team documents early on in the process. This includes informing the team throughout the process about visitor motivation, interest, and ability to learn the exhibit con-



Figure 2.6. Angela Roberts Reeder describing hierarchies of exhibit text, April 2013. Photo by the author.

tent. This is important for strategizing how to engage different audiences in exhibit content or for targeting some content to a specific audience. The education specialist also informs the team about the effects group dynamics have on the visitor experience. Educators are also active researchers in the galleries, and they can often be found in the halls with a cart testing out strategies, concepts, and language with visitors. They also work with contracted evaluators to craft testing instruments and methods with the public. They liaise with the education department or other relevant experts, in- and outside the museum, to inform public and school programming, curriculum materials, guides, or other materials. They contribute relevant literature or theories of learning and develop possible programming opportunities as early as the 10% stage. For *Deep Time*, this included physical spaces for programming and education in the gallery. One problem with defining the role of the educator on the Core Team is that, as Amy Bolton said, “not all educators in my department are the same. So there are a couple of educators who wouldn’t call themselves educators, they called themselves technicians. . . . So that can be really challenging, and I think that’s really challenging for the museum because you get this widely and wildly different way of going about the work, depending on who goes in the room”; and thus the role is not very clearly defined.²²

Curators (Department of Paleobiology)

Curators are the main experts charged with exhibit content—its overall narrative or conceptual underpinnings, the specimens used to tell its story, and its accuracy. Some projects, such as the *David H. Koch Hall of Human Origins*, which opened in 2010, have a single curator. Others, like *Deep Time* and the *Sant Ocean Hall*, opened in 2008, have more than one. Throughout the process, they are tasked with maintaining scholarly and factual standards of an exhibit and guide negotiations with relevant experts on scientific content and concepts (particularly where ideas or theories are contested). In the case of *Deep Time*, each curator has an area of expertise, but as a group they are also responsible for consulting with other curators in the department on areas pertinent to those colleagues' expertise. Curators work closely with the exhibit writer(s) on the script, but the curators do not write the script. They do, however, volley script drafts to colleagues and back to exhibit writers with comments and corrections throughout the process. During the process and after opening, curators also act as spokespeople for development and public relations.

ADDITIONAL CURATORIAL ROLES (UNIQUE TO DEEP TIME)

Lead Curator: The lead curator coordinates the scientific content and input from curators and other department participants for the exhibit.

Initiative Lead: The initiative lead is the lead on the broader scholarly initiative of *Deep Time*, which includes its research and programmatic pieces.

Advisory/Extended Team

This is a group of additional scientists, educators, or leaders in the museum with whom the Core Team will need to consult throughout its work. Membership in the Advisory Team varied across different parts of the project. For the 10% concept narrative, it included only curators from Paleobiology. For the Temporary Exhibit project it included *Deep Time* Core Team members, preparators, and me.

Approval Team

This is constituted of museum leadership who comment and sign off on documents produced at each stage. For *Deep Time* in 2013, these were:

Elizabeth Duggal, Associate Director for Public Engagement
Jonathan Coddington, Associate Director for Science
Brian Huber, Chair of the Department of Paleobiology
Kara Blond, Acting Assistant Director for Exhibitions
Shari Werb, Assistant Director for Education and Outreach

Conflict, Compromise, and the Making of Smithsonian's Fossil Halls
Diana E. Marsh

<https://www.berghahnbooks.com/title/MarshExtinct>

NOT FOR RESALE

The Approval Team does not officially include the NMNH director, although he was present at package presentations and had input throughout the process.²³ This is, in part, to protect the director and the museum should there be a major controversy or question about an exhibit: “The rationale for that is, something may blow up about an exhibit, some angle of looking at it that promotes controversy or strife. And, so, you don’t want to have the person adjudicating that kind of conflict to have been compromised by, officially, approving whatever the exhibit might be.”²⁴

In general, museum leadership, including associate and assistant directors and chairs of departments, not only set the tone for and oversee the NMNH’s various departments, they also shape higher-level visioning and policy, some of which is articulated in five-year strategic-planning documents. They also liaise across the NMNH’s different departments. They act as an interface between the staff, the director, and other branches of the Smithsonian. These include pan-institutional leaders such as under-secretaries, the secretary, and the board of regents. As Kay Behrensmeyer described to me of her time as an associate director for science:

I got to know people in the other departments and appreciate what goes on up there and how they are really running interference to let the scientists do what the scientists want to do, and the scientists don’t appreciate it.²⁵

Associate and assistant directors spend almost all of their time in meetings—and hence have entirely “blue,” or full, Outlook calendars. These positions require complex knowledge across disciplines and an ability to move between contexts and departments quickly and fluently. Doing the job well requires you to, as Kay continued, “change gears all the time and be quick on your feet adapting to new situations, and not getting flustered.”²⁶ While these are positions of power, many staff who take them on see these roles as forms of service, not ascendancy.

Contracted Design and Production Team

There are also a number of people who are not Smithsonian staff who are contracted to work on projects.

Today, for large-scale projects at the NMNH, the design team is an internationally recognized firm that wins a bid for a contract with the museum. The process for choosing a design firm to undertake *Deep Time* began before I started my research, and the process was not open for documentation. The current model for large-scale projects sees a number of firms submit proposals. These are reviewed, and in the case of *Deep Time* a small number of firms was invited to interview, after which one firm was awarded the contract.

The successful design team works iteratively on a constant basis with the Core Team, sharing ideas, provoking discussion, gaining feedback, and then reshaping plans. In the case of *Deep Time*, the designers were asked to propose a media group to join the process from the beginning stages. This was a new way to include media and the media team's thinking early on. For *Deep Time*, the senior team from the design firm attended the twice-monthly two-day workshops in person and "standing meetings" every other week by phone or video conference. The three representatives from R+P were Stephen Petri, the principal overseeing the entire vision for the project on the design firm side; Fang-Pin Lee, a senior designer charged with drafting most of the drawings and the vision for the overall design; and Pauline Dolovich, another principal of the firm charged with managing the overall project management from the design firm side. R+P contracted three media firms for the project, the first of which, the Richard Lewis Media Group (RLMG), acted as a kind of "key" or "umbrella" company. Pauline also described how the *Deep Time* project was unique in bringing a media team in early to inform the process and "play a key role on the team to help shape the gallery."²⁷ RLMG's principal, Richard Lewis, and its director of design, Mark Ostrander, ordinarily attended the workshops and standing meetings.

The representatives who attend meetings from the design firm also work with a further group of experts back at their office. The whole office includes some thirty-five staff, a graphic design group of three to four people,



Figure 2.7. Exhibit Team meeting including R+P, additional Exhibits staff, and a guest media group, June 2013. Photo by the author.

an industrial designer, a number of technicians, junior designers, interior designers, and more. At the early stages, most of the work produced by the design firm is generated by a core (senior team) group, working with a half dozen others—graphic, intermediate, and junior designers.

This group doubles in size in the second year of planning after the project moves past the 35% phase. During the early stages of a project, targeted “idea development” happens among the senior team. The work is highly focused and centers on organizing ideas conceptually and visually. The small group works tirelessly in constant “fear of the blank page,” as I heard Pauline Dolovich and Fang-Pin Lee say. Dozens of sketches and concept bubbles are produced by the designers for presentation to the Core Team at each workshop.²⁸

Once the project’s ideas, floor plan, and big specimens are firm enough, additional assistants at R+P begin to render them. At this point, the project “takes on life of its own.”²⁹ Subcontractors who specialize in lighting, architectural renovation work, costing, image procurement, security, among other things, are brought in. Thus, a huge number of back-end experts work throughout the process that the Smithsonian team never sees.³⁰

In-House Design and Production Team

The design firm under contract with the Office of Exhibits on producing and coordinating Exhibits work with facilities and building project staff. Those they associate with include additional project manager/developers, collections managers, the program manager for facilities and operations, and the associate director for operations on physical and fiscal constraints on collections and the building.

The in-house production team (primarily for temporary exhibits and exhibit upkeep) is managed by a production project manager and includes staff in fabrication, graphics, modelmaking, and AV/lighting. Below is a diagram showing the organization of Exhibits in June 2013.

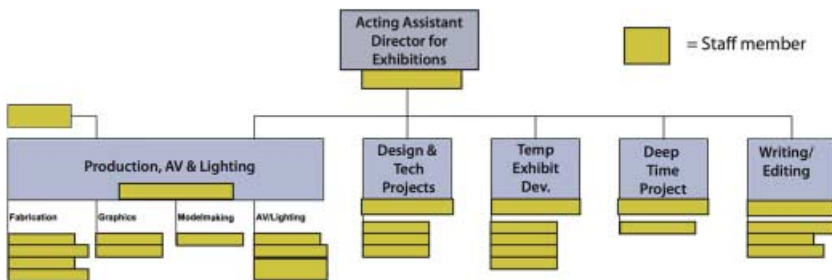


Figure 2.8. Exhibits staff organizational chart, June 2013. Courtesy of the Office of Exhibits, National Museum of Natural History, Smithsonian Institution.

Other Exhibits experts are also increasingly brought into the project. Those involved and the timeline for their entry into the project vary by the specific content or object requirements for the project at hand.

As the process goes forward, according to Kara Blond, “almost everybody in this department will be involved,” including those charged with “conservation work and managing the process of getting two thousand specimens prepped for the new exhibit,” others “responsible for media development and implementation,” someone else on “a book and a website,” and another “responsible for evaluation.” Still more staff would be “responsible for reviewing and supporting plans for the facilities renovation,” while the “whole A/V and fabrication team will be involved in varying degrees.”³¹ “It really does,” she said, “touch on everything that we do.” Once the building process gets started, there will be “a whole new [additional] group of site people and electricians and plumbers and engineers and architects and construction guys and cement guys . . . and historic preservation people and accessibility people and safety and fire . . . it really starts to grow exponentially.”³²

Other Curators

During the 35% phase in particular, additional meetings occurred among staff outside of Core Team meetings that shaped the group’s work and relationships. Some of these meetings were institutionalized or formalized. Others were tacit. In the early stages of the 10% phase, there was a strong push to invite members of the Paleo department to meetings so that they felt included in the process. However, during the 35% process, the lead curator introduced curatorial content meetings. The three curators and other Paleo staff met to plan the major narratives for each section of the hall. This way, the curatorial team could draw on the expertise of relevant (nonteam) members of the scientific staff to hone main messages for each section of the exhibit. Each meeting, convened by lead curator Matthew Carrano, focused on a geologic time interval that would be represented in the exhibit. The meetings were held at a local café, and the conversations were recorded. In turn, Angela Roberts Reeder would pare down notes from the discussions to produce a simplified document with hierarchized messages—essentially a content brief for each time period. These could then be circulated to the designers and the rest of the team.

Vertebrate Preparator

In the case of fossil exhibits, one of the most involved additional roles is that of the preparator. As we saw in chapter 1, preparators have been essential to exhibitions at the NMNH since its beginnings. Because the

Temporary Exhibit was on an accelerated timeline, and because the working FossiLab was to be an important part of it, the vertebrate preparator (“prep”) team was heavily involved in planning meetings.

Generally, preparators—formally museum specialists in institution speak—collect fossils in the field with research staff (curators). Preparators are thus highly trained fieldworkers, and they aid in the process of fossils being discovered, packed, and shipped back to the museum (still embedded in rock), after which, as their title implies, they “prepare” fossils—extracting them from their surrounding rock and sediment (matrix) and cleaning their surface features, piecing them together, repairing and conserving them, or otherwise readying them for research, storage, and sometimes exhibit display. At NMNH this includes, with volunteer help, making plaster jackets lined with padding to protect fossils (naturally concave or convex and very heavy) in storage, and molding and casting fossils to make copies for research and display, as well as for exchange with other institutions.

Importantly for exhibits, preparators also mount fossils in house and ready fossils for exhibit display or removal. For *Deep Time*, the prep lab was instrumental in removing fossils from the current exhibit, working with conservators and, in this case, Research Casting International (RCI), a large contracted firm, to ensure that fossils were “healthy,” or if not, conserved or prepared for either storage or the new gallery. Preparators often possess numerous additional skills, in everything from mapping and surveying to mold-making and sculpting.³³ They also bridge research, collections, and outreach. As Michelle Pinsdorf put it, “I like the mix, I like that it is addressing specimens that are coming into collections to be used for research now, taking care of specimens that have been part of our research pool for a long time, and helping to plan for the future of the public place of collections as well.”³⁴ Particularly in the Temporary Exhibit process that I observed, *Last American Dinosaurs*, where it was proposed that fossils moved off display might be conserved in the hall’s live FossiLab, the preparators were quite active as advisory board members in early meetings and document review. As the process progressed, they also assisted in reviewing both drawings and physical brackets for specimens and in providing their expertise for the physical needs of display specimens in a variety of ways.³⁵

Collections Manager

Collections managers oversee how specimens are maintained, removed, and put either into storage or back on display. They are also responsible for maintaining collections and the databases containing information about them. A number of staff in a department such as Paleobiology work on

collections—each with a general area of focus (invertebrate, vertebrate, plants), but some also work more closely with data management. For *Deep Time*, ongoing meetings occurred between the exhibit developer/project manager, relevant other Core Team members, and Paleobiology collections staff, during which they planned the removal of specimens, assessed collections or spatial needs, and arranged for the care of fossils in transition from exhibit into storage or out onto display. For *Deep Time*, this process included working on a massive deinstallation project to dismantle the specimens and move them into a temporary storage space, from which specimens for the new hall would be tracked as they were taken off-site and worked on by a large-scale conservation and preparation firm.

* * *

Further project and administrative teams worked with centralized Smithsonian units on the logistics and overall scope of *Deep Time*.

Deep Time Project Teams 2013

NMNH

Deep Time Project Manager
 Acting Assistant Director of Exhibits
 Chief of Exhibit Design
 Lead Curator, Curator of Dinosauria
 Program Manager, Facilities
Deep Time Initiative Lead, Curator of Fossil Mammals
 Preparator, FossilLab and VP Lab Liaison
 Museum Conservator
 Collections Manager, Department of Paleobiology, Collections Liaison
 Project Manager/Developer, Office of Exhibits
 Program Specialist, Facilities
 Project Manager/Developer, Conservation Contracting Officer's
 Training Representative (COTR), Office of Exhibits

OFFICE OF FACILITIES ENGINEERING AND OPERATIONS (OFEO)

Project Manager
 Design Manager
 Construction Manager
 Branch Chief, North Mall
 Resident Engineer
 Zone Manager, North Mall
 Mechanical Engineer

Project Administrative Teams

NMNH

- Kirk Johnson, NMNH Director
- Mike McCarthy, Associate Director for Operations
- Elizabeth Duggal, Associate Director of Public Engagement
- Jonathan Coddington, Associate Director for Science

OFEO

- Nancy Bechtol, OFEO Director
- Walt Ennaco, Deputy Director
- Debbie Nauta-Rodriguez, Office of Planning and Program Management (OPPM) Acting Director
- Derek Ross, Office of Planning Design and Construction (OPDC) Director

* * *

Further, beyond R+P, other big firms were contracted to work on the architectural elements of the project (restoring Beaux Arts architecture in the building) and fossil specimen removal, conservation, and remounting. See below for the *Deep Time* roles draft diagram, which described the various pieces of the project.

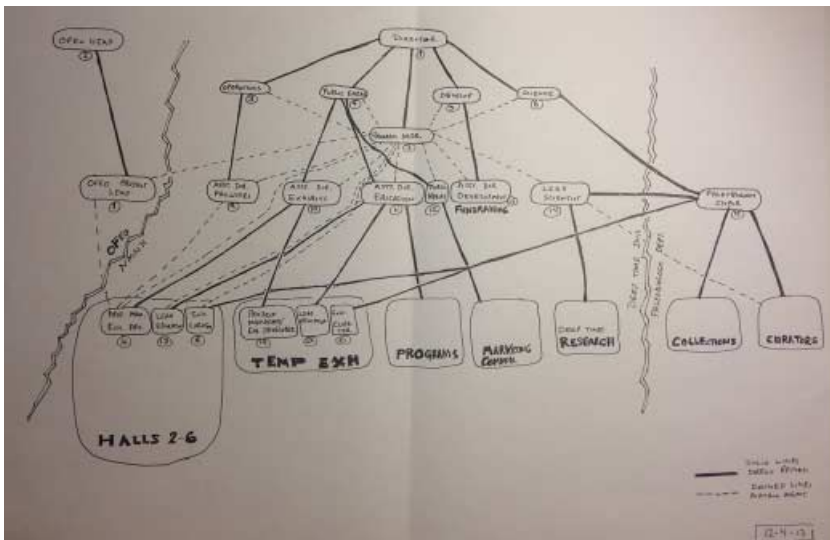


Figure 2.9. *Deep Time* roles draft diagram, December 2013. Drawing courtesy of the Office of Exhibits, National Museum of Natural History, Smithsonian Institution.

* * *

It is no small job to coordinate this mass of people who not only have different departmental perspectives and disciplinary backgrounds but who also work in spatially distant places. The process of organizing experts around projects like *Deep Time* is thus a slow, iterative process, generated in multiple stages, each one allowing input from relevant experts.

The Process: A “Big Idea” and Forming Expert Teams

What is now *Deep Time* went through a long period of development before it manifested in its current form. When curator Matthew Carrano saw the listing for the position he would apply for in the early 2000s, it already made mention of a fossil hall renewal project. When he arrived in December 2002, meetings were already beginning to take place. By 2004, he, Kay Behrensmeyer, Conrad Labandeira, and Scott Wing were drafting “case statements” intended to assist in fundraising for the project. In October 2005, Scott Wing presented “Deep Time” to Cristián Samper (former NMNH director) and Lawrence Small (Smithsonian secretary), who had shown interest in the project. However, it was not until Samper called for proposals in the fall of 2008 for “Big Ideas”—research, exhibit, and outreach initiatives that the NMNH would prioritize—that Paleobiology morphed their project into a full-blown research initiative. The curators on *Deep Time* had therefore worked on the conceptual framing for the project for nearly ten years before the exhibit launch.

Deep Time was thus initially conceived as an initiative anchored by an exhibit component. That component involved both a temporary *and* a permanent exhibit. But the process did follow a somewhat standard model. Early documents were not unlike typical *idea statements*. This is the most democratic part of the process. An idea statement can come from anyone in the museum. The *Deep Time* proposal for “Big Ideas” submission was submitted by four curators from Paleobiology—Matthew Carrano, Kay Behrensmeyer, Conrad Labandeira, and Scott Wing—with input from Amy Bolton from the Office of Education and Outreach, Randall Kremer from the Department of Public Affairs, and Elizabeth Musteen from Exhibits. It was presented to the NMNH board, who voted on the proposals. *Deep Time*, as an exhibit and research initiative, became one of three (*Deep Time*, *Genome*, and *Recovering Voices*) that were selected to move forward.³⁶ Once the “Big Idea” was chosen and a set of core principles applied to it, the managerial and development staff needed to find a donor to move for-

ward. In May 2012, David H. Koch donated \$35 million for *Deep Time*, enough to launch the exhibition project in earnest.³⁷

Once a project has secure funding, the planning can truly begin. After a few early meetings, the exhibit developer/project manager proposes a schedule for weekly or biweekly meetings for a core team. Michael Mason, then assistant director for exhibits, was charged with coordinating members from Exhibits for each of the Temporary and Permanent Core and External/Advisory Teams; Brian Huber, chair of paleobiology, coordinated research staff; Shari Werb, assistant director of education and outreach, coordinated Education's members.

Once the Core, External/Advisory, and Approval Teams are in place, the process morphs into a series of scheduled meetings. During early meetings the team drafted a "proof of concept," which honed big themes, goals, and audiences, and wrote a call for proposals to solicit design firms.

While I was not privy to conversations about the choice of the design firm, the call for proposals was released on the web in May 2012 in tandem with the public announcement of the Koch donation, and members of R+P and RLMG described some of the process to me. The call described the responsibilities of the winning firm:

[The firm will] provide all design services for the exhibition, including all exhibition planning, design of the exhibition and all its components (i.e. graphics, lighting, exhibition security, object mounts and multimedia/audio-visual, interactive), layout of all exhibition components, A/E services for the exhibition elements, coordination with the renovation project A/E on infrastructure requirements, project documentation, exhibition cost estimating, project management, contract administration, fabrication and installation quality assurance and coordination services, and all specifications, drawings, and associated materials necessary for the museum to proceed with the fabrication, conservation, stabilization, construction and installation of the new 24,500 square foot exhibition at the National Museum of Natural History in Washington, DC.³⁸

According to Angela Roberts Reeder, there was some debate at this point about whether the writing would be done in house or contracted, and so the firms were to show proposals both with and without contracted writers. Firms were, for the first time, requested to propose a media group to work alongside them in the project. In formal Requests for Proposals (RFPs), firms submitted proposals judged on "1) Plan of Accomplishment; 2) Firm's Experience and Past Performance; 3) Management (Management Plan and Key Personnel/Subcontractors); and 4) Contract Price."³⁹ The project was anticipated to take 120 weeks. In the end, the team selected R+P, the designers who had done the halls for mammals and human origins (with RLMG, who had worked on media for the latter).

Communication, Perceptions, and Disciplinary Expertise

On my very first official day at the museum in 2012, I attended the first meeting of all the staff who would be involved with *Deep Time* Permanent and Temporary Exhibits (the latter eventually named *Last American Dinosaurs*). What I did not realize, as I shakily introduced myself, was that I was meeting a room full of people many of whom *were also meeting each other for the first time*.

At my first meeting, I also realized that my project was in good company with works by anthropologists Douglas Holmes, George Marcus, and others who have talked about their informants being “paraethnographers” or being able to “ethnographize” themselves.⁴⁰ As Jennifer Shannon had said during her work at the National Museum of the American Indian (NMAI), “Participants in my research were at the same time cultural experts, anthropologists and bureaucrats; in other words, their knowledge practices were much like mine.”⁴¹ My participants could “reflect on, and study *with me*.”⁴² I therefore paid close attention to the ways people described themselves, their roles, and the institution. At various times I heard

- the museum described as a village full of small tribes, or an ecosystem where the actors changed but roles stayed the same;
- exhibits planning and development described as film production, “a contact sport,” baseball or hockey; the choice or development of exhibits described as a process of natural selection;
- the *Deep Time* exhibit described as a theater, a string of beads, a memoir of the Earth, a logbook, a timeship, a time machine, a spaceship, a book, an archive, a library, a control room, a time scrapbook, a movie (or a trailer), a time trail, a metro map, a manual for the future planet, an orchestral composition, the Piazza del Campo in Siena;
- the exhibit in turn viewed or at times actively controlled by the visitor through an element within the exhibit—imagined as a time machine, a veranda, a vista, a nexus, a synthesizer, a console, a portal, the bridge of a ship, a (mission) control board, a command center, a dial, a dashboard, a game, a “climatometer,” a hub, a transporter room, a lens, an eye, a stereoscope, a “temporal positioning system,” and even the practice of paleontology itself.

Sometimes, these same metaphors were used by scientists to describe paleontology and changing ecologies through time, both in literal and metaphorical language.

At my first meeting, one of the proposals pitched was an exhibit *about the process of making exhibits*. In the end, this became a subsection of the exhibit. Below is an excerpt from the Temporary Exhibit 10% concept script describing that proposed component on how the museum produces exhibits:

Area 8: Designing the “Deep Time” Exhibition

Along the corridor, archival and contemporary photographs, along with updateable design sketches of the future *Deep Time* exhibition, give visitors a preview into the new hall and the work needed to develop such an expansive exhibition.

Key Message

Making an exhibition involves years of collaboration among many experts to put the dinosaurs—and other fossils—into a finished exhibit hall that will remain engaging for generations of visitors.

Narratives and Components

Who’s who in developing an exhibition will feature “action” shots of the team and its members with short captions about their role in the exhibit development process. Archival photos and anecdotes will highlight changes in exhibition techniques, paleobiology, and behind-the-scenes technology over the last century.⁴³

One of the messages of the Temporary Exhibit was the precise topic of this chapter. Both the *Deep Time* and the Temporary Exhibit Teams included a large number of experts—in total four paleobiology research curators, two education specialists, an exhibits writer, two exhibit developers, three vertebrate preparators, and a number of other museum leadership and staff—all with different roles and expertises.

In one meeting, Kara Blond, then acting assistant director for exhibitions, noted that the way such roles in the museum shift over time was not unlike species filling new ecological niches. The ways in which staff ethnographized themselves remained interesting throughout the process. It was also useful to talk with my participants about some of my initial observations as the process moved along.

Each meeting had the feel of a seminar, and I was encouraged to treat it as such, but the political dynamics were much more complicated than that. There were both shared loyalties and priorities, and all sorts of political complexities and anxieties, among the group that shaped its conversations.

This is the counterintuitive thing about exhibit-planning meetings at the NMNH. No one in the room has privileged speaking rights, and all ideas are, in theory, equally valid at the table. However, members of the group have *different modes of communication* and *have certain kinds of power*, both of which may or may not relate to either the *training*,

background, or discipline from which the person comes or the fact that certain people actually have power over certain elements of any project as described above in their official roles. The following sections describe these different factors as they play out in exhibit meetings and depict their importance for understanding underlying power dynamics in meeting conversations.

Modes of Communication

It is difficult to write about modes of communication because much of this dynamic relates to individual personalities. From the start, I was interested in roles and institutional cultures, so I tried not to focus on individuals. My audio-recorded fieldnotes include some reflections on individual differences between my informants, but I chose to focus on disciplinary and departmental commonalities. As Abby Telfer, who runs the FossilLab and attended Temporary Exhibit meetings once told me, “Smithsonian specializes in articulate people.” This is exceedingly apparent at exhibit meetings. Some people are more talkative or argumentative than others; some wait patiently and then drop a cognitive bomb on the group that steers the whole direction of the conversation or the project; some focus on coherently stating the perspective of their particular expertise; some combine these tactics; but all ideas are conveyed articulately and hold more or less sway at different moments.

What is more interesting for the purposes of understanding roles is the ways that disciplinary and cultural belief systems and norms intersect with these subjectivities. I turned to a few key theorists when analyzing these dynamics. Sociologist Erving Goffman, in his work *The Presentation of Self in Everyday Life*,⁴⁴ offers a theory of self-performance where, as in a theater, individuals act as either performers, audience members, or outsiders within social “stages.” His term “impression management” is a particularly useful one for thinking about the revealing and concealing of the self in meetings and elsewhere in the museum. Alternatively, in anthropologist Frederick Bailey’s analysis, political communications have “normative rules” that don’t “prescribe” actions but “rather set broad limits to possible actions.”⁴⁵ They are used to generally guide conduct and to judge it right or wrong, proper or improper. While the very broadest of these rules are shared among the group (professional language, general meeting conducts), disciplinary norms differ, such that the tone or frequency of speech might change between, say, scientific and nonscientific staff.⁴⁶ Literary theorist Homi Bhabha was likewise useful in thinking through these

interactions as “in-between” or “interstitial spaces.”⁴⁷ In exhibit planning, experts from different institutional and disciplinary contexts engage in social “articulations of difference.”⁴⁸

I came across interstitial and performative spaces in two ways: First, I often observed intersections between disciplinary cultures and communication when individuals would assert their particular role before speaking or in documents that circulated among the group. Second, I came across these intersections in interviews and casual conversations about people’s backgrounds or conflicts they were experiencing in the planning process. In both cases, these intersections are often made apparent in departmental jokes about other parts of the museum.

In Word documents that circulated with track changes, as in meetings, it was often clear that curators were more verbose in their comments than the educators, exhibits staff, or support staff. This was immediately apparent in the Temporary Exhibit documents because the planning process moved at a faster pace than for *Deep Time*. Documents became brightly colored with tracked changes comments as they circulated. My favorite document title was: “Putting Dinosaurs in their Place_concept script draft_130212_H DS+MMP+SJJ+DM_H_DS2+AB+AT,” where each set of capital letters indicated a commenter. The tone of each of these participants was often distinguishable by role or discipline.

The stereotype in the museum is that curators are more likely to assert their opinions without as many qualifying statements, to be more long-winded in their comments, to be so obsessed with facts and their own area of expertise that they refuse to cut text down, and to be keen to tear apart the tone, word choice, English usage, and grammar of exhibit text, even though they are not writers on the project; overall, they lack professional etiquette. In Exhibits, there are lots of running jokes about curators, especially about the often harsh way they comment on documents. This is not an un-useful defense mechanism. As Amy Bolton said of one experience with a “note” she received from a curator, “So he wanted to show me how wrong I was, and I was like, ‘Wow. Okay. It’s a sport around here. I get it.’”⁴⁹

I experienced the sport myself when I commented, from the perspective of my archival research, on a Temporary Exhibit script that read that dinosaurs had been on display at Smithsonian for 100 years. My comment read, “140 years? If Hadrosaurus was up in 1874 and if the hall opens in 2014. . .”⁵⁰ When the document returned, I couldn’t help but feel a sinking and nervous feeling when, within my comment bubble, I read the reply of Hans Sues, curator on the project, in all caps: “THAT WAS NOT A REAL DINOSAUR EXHIBIT—THE REAL EXHIBIT IS A LITTLE MORE THAN 100 YEARS OLD (HALL OF EXTINCT

MONSTERS).” Knowing Hans as I do now, I know he was distinguishing his comment using all caps and that he is a jovial person who is committed to getting facts right, but as a new and admittedly intimidated person in the museum, I was left with little wonder that curatorial stereotypes, once they are culturally established, hold weight.

Belief Systems and Power

In trying to understand the cultural dynamics of the institution, I had many casual conversations with curators, educators, and staff in Exhibits about their colleagues, and I was included in joking about these things in casual or social settings. Hypotheses abound about why different experts might act differently than each other. I intentionally meld theories here, but some perspectives on documents, for instance, include the following: Curators, so used to editing documents in scientific circles and journals, have a harsher or more objective mode of editing documents. They don’t take them personally. Exhibits people and educators, on the other hand, have more artistic sensibilities. Artists put more of themselves in their work. Criticism of an exhibit writer’s work, for instance, feels more like criticism of someone’s artwork. Or maybe they’re just more “touchy-feely.” They’re trained to accept everyone’s perspectives. Scientists know that there is a truth out there, and that not everyone’s opinions about it count. Scientists are constantly worried that Exhibits people are determined to “dumb down” the science and their work.

As writer Angela Roberts Reeder said,

One of the things I’ve heard from other writers is that we are often accused of “dumbing down” the exhibit. I think that’s an elitist perspective. What we are trying to do is meet our visitors where they are so they are engaged with the content.⁵¹

Such statements reveal entrenched power dynamics at the museum. The perceived and real power relations that they illustrate are important for understanding the dynamic of a new group of people working together for the first time. And it is understood by almost everyone in the museum, except curators, that curators are of a higher status and “caste” than everyone else. As educator Amy Bolton put it, “It didn’t take me long to figure out that there was not a whole lot of respect shown to the Education office.” As associate director for science Jonathan Coddington put it, there is “a big problem with privilege” in the museum because scientists are seen “by the rest of the museum as among the most privileged class.” On the one hand,

that's justified because they're expensive and we limit the number, and they have unusual, even extraordinary freedom to do what they want . . . they have to be the best in the world and world famous, and for a good reason, not a bad reason.⁵²

Curators also have unique kinds of prestige. All have PhDs and are experts in some niche within their fields; they are expected to publish three articles per year in prominent journals; they are usually recruited for their jobs from afar and go through a rigorous selection process, and later they also experience a tenure-like process to keep their jobs. They are usually paid more, and there are fewer of them. On the other hand, administrators and others know that curators are not, “by any means, the only expertise in the building” and that the museum “need[s] to do a better job of professionalizing the other voices that add into a Natural History museum, most obvious being outreach and collections.”⁵³

Curators, particularly at the NMNH, are scholars first and foremost, and their primary role is in research and publication. Their performance reviews are weighted more heavily in this area. Outreach work, while important, is not valued as deeply, and curators who take on very large-scale exhibit projects need to ensure that the associate director for science and their department chair take into account the necessary time commitments for the exhibit when completing their annual reports and Professional Accomplishments Evaluation Committee (PAEC), which evaluates a curator every five years. I often heard that it was detrimental for curators to take on exhibit projects with extended timelines because accommodations for work on exhibits were not available for PAEC reviews. This has certainly been changing in the last few years. However, unlike publications, exhibits at the NMNH are not academic “credit” for curators, although they clearly care very much about how their scholarly colleagues will think of the finished product. As Jonathan Coddington said,

The overall trend is that you start off as a scientist here, and your reward schedules will be pretty clear. At least 50 percent, maybe a little more, is research quality and quantity. And then the rest of your time is devoted to collection and curatorial matters, outreach in all of its myriad forms, and professional service, which is both outside the museum serving on international commissions and panels, editors of journals, roles in scientific societies, and also internal things, committees. Scientists generally try to avoid committees.⁵⁴

Such emphases make exhibit work unpopular with curators, even though they often get the most public credit for a completed exhibition.

Curators' reluctance to do exhibit projects and the fact that they don't often take on more than one large-scale exhibit project in their careers makes it difficult for Exhibits staff to build respect for their expertise and

experience. Each new project means training new curators in how the exhibits process works and what each player on the team does. These Exhibits and Education staff often have “hidden positions” in these projects. Very few current halls list any of their producers—including curators—either in the space or online once they are complete. *Life in the Ancient Seas* was an exception. Because curators are the main spokespeople for exhibits, it is rare that the press or media interview or acknowledge noncuratorial Core Team members as exhibits develop and are opened, although this is slowly changing.

Curators are very clearly perceived to wield more ideological or conceptual power in the museum. In exhibits planning, power over concepts is distinctive. It drives the process because, today, it is an idea, not a thing, that is generally being translated for the public in exhibits. Of course curators, along with collections managers or in overseeing collections managers, know the objects well. In a fossil exhibit, if you drive the ideas and you are the only person in the room who really understands the fossil collections that you might use to describe those ideas, then, indeed, you have a huge amount of power. But curators throughout the museum are worried that they will become mere “fact checkers.” This is largely because the curatorial role is smaller in the exhibits process than it was in the past, as we saw in chapter 1. Curators tend to feel that Exhibits wields more important power because it controls scheduling, budgets, and many other organizational aspects of the process.

Logistically, and in terms of money power, the Office of Exhibits controls the budget on an exhibit. But most exhibit projects require external fundraising, which comes through the development office. For *Deep Time*, David Koch’s \$35 million was the initial gift that allowed the project launch. If you follow the money, the NMNH development officers who secure large gifts such as Koch’s and those in Exhibits who control that money once it comes to the museum wield huge power. Exhibits managers or developers are charged with overseeing not only the budget but also the schedule for the exhibit-planning process. While research is core to the NMNH’s primary mission, the museum, with stricter budgets, now relies very heavily on its outreach and development activities to survive. The *Deep Time* Initiative was originally proposed to be a much larger set of projects that also contained substantial resources for research. By the time I began my research period, this money had only partially materialized, though *Deep Time* was still conceived as a wider research initiative. Koch funded the exhibit project, not the research initiative, and so the exhibit project took precedence.

One of the main roles for Exhibits is to manage the project and all of its logistics, which is certainly the office’s own form of unique power. Ex-

hibits also manages the overall development of content and ideas. In many projects, these two aspects—overseen by project managers and exhibit developers—are controlled by two different people. As Sally Love said of her time as exhibit developer on the *Kenneth E. Behring Family Hall of Mammals*, “Elizabeth Musteen was the project manager, so she coordinated sort of the physical aspect of it and I coordinated the content development, the design development, and writing. That was pretty complicated.”⁵⁵ Both positions need incredible time management and “super organization skills” for “keeping track of all these different details.” Exhibit developers, Sally Love said, like movie producers, have to rein in all of the moving parts while maintaining a coherent vision and team morale:

You’re pulling in the writers, the directors, the designers, the builders, the content and just trying to coordinate all these different pieces and move it forward in a way that you still have some judgment call to make on some of this stuff. Hopefully. And then work for a consensus. You have to be sort of part psychologist, group therapist, bartender, but it’s just trying to get people to sign on.

At a higher level, audience advocates in both Exhibits and Education also see themselves as communication professionals—they communicate science and ideas aesthetically, textually, and programmatically for a diverse public. Shari Werb described educators as “translators” who “bring to life” and “connect all of our resources at the museum with our public . . . in a living way.”⁵⁶ Educators have vast experience “creating things that are durable, that they understand how the public moves in this space. They have techniques and imaginations for creating spaces that are inviting to people.”⁵⁷ They often feel it is their responsibility to ask seemingly naïve questions, on behalf of the public. When asked what makes a good exhibit developer, Kara Blond, then acting assistant director for exhibitions, said:

The desire to include the visitor in the conversation. To go out and say, “Does this make any sense to you, and what about you and you and you? Do you get what we’re trying to say? What questions does this raise? What information do you need to know before you can understand this?”⁵⁸

This was also true of other Exhibits staff at the meetings. Writer Angela Roberts Reeder felt that exhibit writers, as audience advocates at the table, have a responsibility to ask “naïve questions.” As she articulated, “I’m asking the questions and sometimes feeling stupid so that my readers don’t.”⁵⁹ Amy Bolton said, “When I sit in the meetings, I actually write questions down that I have about what people are assuming or saying”⁶⁰ to later question those assumptions. Bolton also likewise saw her role as channeling different kinds of visitors and their perspectives:

I'm an advocate for the visitor. All of them. Every last one of them . . . I'm a conduit for different approaches or different ways of thinking about the topics that we've got. I am not a content specialist, but what I can do is look at the content and say, "Well, here's an entry point for it or here is a sequencing of it." . . . And I can imagine the same thing from many perspectives. By keeping the visitor in my head, I can say, "Okay, I am a novice boy in a family of three."⁶¹

Amy Bolton continued, "My personal expertise is the systematic design and instruction, so I have a very systematic way of thinking about things. . . . I can think through that sequencing, whether it's linear or from multiple entry points."⁶² Educators work with the scientists to understand scientific content and then translate it to make it understandable and relevant to visitors. As Shari Werb said,

What's cool? What might be interesting to your average person and teenager about what you're doing? . . . The educator takes that story and shapes it into something that models the work that the scientist is doing but will become relevant to the audience that we're trying to reach.

Relevancy is understood through "testing and testing and testing with that audience to make sure that what we're developing makes sense," Werb continued.⁶³ Both exhibits and education professionals also conduct benchmarking studies,

bringing in people who work with specific content . . . so you're not reinventing something that's already been tested and done well, but you may be adapting it for your own environment, or you're basing it on things that you know, like research that you know has worked over time and adapting it for your new environment . . . You want to do that research and keep coming back to it.⁶⁴

This approach is not always respected by curators, despite its grounding in social science and psychology research. There is rampant distrust of this kind of research from the scientific community in the museum. As Angela Roberts Reeder said of research scientists' perspectives on exhibit writers' knowledge of their audiences,

Just to paint a grossly broad brush—subject specialists, curators, scientists, they would like for visitors to actually read more than studies have shown that they do read, or the scientists will use vocabulary not realizing that most people don't know that vocabulary. Or they think that my statement that we write for an eighth-grade reading level is an insult, when really it's not.⁶⁵

National Public Radio, or NPR, she pointed out, writes to an eighth-grade level. And no one wants to read at a postgraduate level all the time on top-

ics they don't know.⁶⁶ As Amy Bolton said, "Not talking to them like they have a bachelor's in science but talking to them like they're novices in a way that's respectful of their being adults would be great."

Often, commiserated exhibit developer Sally Love, "writers get most of the abuse."⁶⁷ As Kara Blond said, "There is an impression that this process of communication is not a unique set of skills," that anyone can teach or "come up with creative ways to tell stories that connect with visitors."⁶⁸ But these skills are based on training, research, and many years of honing methods for communicating to broad publics. As Shari Werb, assistant director for education and outreach, said,

It's hard to be valued for that though. It's kind of a quiet skill. . . . It comes out of a lot of observation and a lot of methodology . . . but if done well, it looks really simple . . . it's invisible.⁶⁹

Indeed, there is ongoing research in the museum and across the Smithsonian in the fields of education, visitor studies, and evaluation, but these forms of research are often considered lesser forms of knowledge production. Even cultural anthropologists in the building, like myself, take heat from the other sciences about the validity of their research. Unfortunately, different epistemological traditions in education and evaluation are ghettoized and openly criticized by many curators both at meetings and in the hallways. To wield power as an educator, according to Amy Bolton, "you have to have your feet firmly grounded in the pedagogy and the philosophy, especially in a building like this where it's a science building. Otherwise, it comes across as weak. And resistance to it, to be able to articulate it, that's really important."⁷⁰ For education and evaluation professionals, the problem is greatly exacerbated by other institutional hierarchies. Exhibits and Education staff often discuss strategies for how to better communicate their work to other museum departments, particularly scientific ones, for this reason.

There's a strong sense among researchers and outreach staff that one group doesn't really understand what the other does, or how important it is. There is a sentiment among both Exhibits and Education staff that curators don't respect their expertise.

Training, Background, and Discipline

Unlike scientific disciplines, a PhD is not often needed to have expertise in exhibits planning and outreach, knowing or understanding visitors, doing audiovisual or mount-making work, or managing large projects. In the last forty years the Education and Exhibits departments have, as Jona-

than Coddington put it, “come into their own as professional centers of expertise.”⁷¹ Yet in large part this expertise draws on best practices and disciplinary standards, many years of experience and training, and the mentorship of previous experts more than advanced degrees. While most upper-level Exhibits and Education staff had master’s degrees in a relevant field, some even in the sciences, the staff that I interviewed had incredibly varied pathways that led them to their current work. Three of the exhibit developers/managers on my floor had master’s degrees in museum studies. Kara Blond and the educational specialist on the project, Amy Bolton, had been journalists who later got specialized master’s degrees in learning design and technology and education and instructional technology, respectively. Angela Roberts Reeder, the main exhibit writer for *Deep Time*, had worked for the *Princeton Review* for many years, received a master’s degree from George Washington University in museum education, and then trained at the Office of Exhibits Central (OEC) before joining the NMNH staff. Mike Lawrence, the chief of design, had pursued arts and education, then a master’s in architecture, and had been an architect with a firm that had done other museum projects at NMNH before becoming an NMNH exhibit designer. As Amy Bolton said of her own experience, it was not, “a straight linear path from beginning to end. . . . It’s more of an amalgamation of skills and perspectives that actually make sense, when you look at it from the big picture.”⁷²

Curators have a much more predictable trajectory. It’s a prerequisite for the job. When I asked how each curator became interested in what they did, they often related that they began with a childhood interest, liked science in high school, went to college and majored in some relevant area, had an important professorial mentor who encouraged them to continue into graduate school, and did a postdoc or two. Then, they applied for a Smithsonian curatorial job. Today, you generally need a PhD to be hired as a curator at the NMNH. As I know well, PhDs require a huge commitment to a single, very specialized field. Of course there are different individual trajectories among the curators—Kay Behrensmeyer, for instance, had been an art major when she started college—and their in-between jobs and steps, the places they studied and the theoretical paradigm they studied under, and the circumstances of how they got started in the field differ not inconsequentially. Nevertheless, their current jobs are the result of a lifetime of career development and training in a specialized research field.

This is not to say that exhibits work is not specialized, because it is. But Exhibits staff in many cases never knew that the jobs they have now existed, or that they would end up working in them. As I illustrate, historically many of these jobs did not, in fact, exist.

Exhibit and outreach staff pride themselves on being able to work in teams. They also pride themselves on their ability to accept others' knowledge and perspectives. While much scientific work, especially today, is collaborative, a research career at its core is an individual enterprise. It is up to individual scientists to defend the importance (and accuracy) of their work and ideas, certainly when applying for jobs, but also when giving talks or interacting among other scientists. As Jonathan Coddington articulated, "PhDs are a license to think, and you will thereafter become basically a self-employed intellectual entrepreneur. You'd better learn how to do it by yourself using just the resources available."⁷³ It is apparent that sometimes curators misrecognize exhibit meetings as scientific seminars, or assume (wrongly) that all colleagues communicate in the same way they do. Generally, curators speak much more often and for much longer than the other in-house team members.

At the same time, individuals can create reputations for themselves that transcend disciplinary stereotypes. As Amy Bolton put it, "The community might have a general impression of your department, but they can hold your reputation separate from that, which I found out pretty early."⁷⁴

In textual production, it is also true that two main roles, curators and exhibit writers, are experts in writing, although of very different kinds. Although I did not observe the process of scripting labels for the permanent or temporary Paleo hall, I heard about the process in relation to other smaller displays, such as a temporary *T. rex* display installed in the Constitution Avenue lobby in January 2014 and in interviews. I also reviewed many previous script drafts with curatorial edits in the archives. In addition, I saw debates about phrasing in some early formative documents.

This is one of the main areas where disciplinary training and cultures clash. To a curator, many exhibit scripts for labels look a lot like manuscripts that research scientists review and produce in their scholarly work. Scripts are circulated as long, double-spaced typed documents in ordinary letter size. However, unlike a manuscript, text from these documents, in the end, will appear as very differently sized pieces, broken up in blocks of different colors and backgrounds:

So, they look like a manuscript. They [scientists] will often think that every word in the exhibit script is important, but what they don't realize is that some of the exhibit script will be in a smaller font, but the titles are going to be in sixty-four-point type.⁷⁵

Exhibit writers are accustomed to thinking about levels of text, and how text will manifest once designers have contextualized it. Curators are also clearly concerned about what their scholarly colleagues will think about

finished label content, whereas writers are concerned only about visitor understanding.

Some of these tensions arise because most curators in the museum rarely, if ever, work on exhibits (or go in them). This prevents, as Kara Blond described, “curator[s] learning from one exhibit to the next.”⁷⁶ Each process requires initiating a new curator from a new department and field of study into the exhibition process. The process is so complex that “we’ve tried to get curators from past projects to talk to the curators from new projects, but it tends to be of limited help.” Until you’re in the process, “I don’t know if you quite get what you’re buying into.”⁷⁷

Thus, even among a group of graduate-educated, English-speaking museum professionals at a single institution, projects are produced and received in different cultural systems so that “meaning is never simply mimetic and transparent.”⁷⁸ Literary theorist and philosopher Mikhail Bakhtin offers another way to think about these translations: while the form of communication may be similar, the thoughts embedded in them are contextual and heteroglossic, or expressing multiple viewpoints. In exhibit meetings and in associated documents where individuals try to creatively describe emergent ideas and physical forms, there is a “*minimum* level of comprehension in practical communication.” Yet what each person says is really only fully understood by people of a similar role or discipline. It is not universally understood, and is in fact often misunderstood, by those who represent other professional practices.⁷⁹

Exhibit Meeting Frictions and Complimentarities

There is an ebb and flow to meetings, and also a constant movement between group cohesion and individuals’ differing perspectives. Slowly, translation across expertise generates a shared group language.

Friction in the Articulation of Roles

Participants oscillate between implicit and explicit articulation of their roles, constantly code-switching between disciplinary, group, and colloquial language. In my written meeting notes, I made sure to take down when a sentence was using the plural subject “we” pertaining to the whole group, “we” pertaining to a departmental or disciplinary group, or the singular “I.” Sometimes the plural “we” notated group language and imagining. In other instances “we” pertained to a departmental or disciplinary

expertise. The singular “I” (I think, I’m not sure that . . .) or possessive “my” (my thinking is that . . .) often also implied departmental and disciplinary expertise, although more implicitly.

Occasionally, it was noticeable that someone was asserting their role in the process because they jumped into a conversation within their particular domain. Amy Bolton might, for instance, interject a question about visitor learning into a conversation among curators about a scientific topic. Such articulations were made explicit in two ways: First, when a member of the group turned to a person with a specific expertise (e.g., “Well maybe, Amy, this is where you might have something to say about this”). A nonexpert was thus volleying to a topic expert. Second, roles were made explicit by the person speaking—experts or nonexperts of a topic would assert their own roles in relation to the topic when expressing their own knowledge (“From a visitor experience perspective I would say that . . .”) or, alternatively, to humbly suggest an opinion they had no particular expertise on (“I’m not an educator, but . . .” or “I’m just the writer, but . . .”). It is clear that sometimes this shift in voice asserted authority. In other instances it was a form of humility in a room of big personalities (“I might just be the developer, but . . .”). Curators were more likely to assert this authority in plural form, saying things in reference to their field (“Paleobotanists tend to think that . . .”).

There are also tensions within different roles. For instance, designers described feeling conflicted between their roles in the aesthetic elements of the design, their role as communicators of content and messaging, and their role in placing or displaying objects: “Especially in the beginning,” Fang-Pin Lee said, “they’re not together, and it’s how you play against the tension of all three elements to find that rhythm or form that will satisfy all the requirements.”⁸⁰

Translating Frictions

Translation is likewise both implicit and explicit. When translations were explicit, members of the group might ask for a definition of another team member’s expressions, or they might joke about the act of translation itself. In early meetings, Fang-Pin Lee and the other designers used the term “move” (e.g., “that would be a big *move*”) until Scott Wing finally interjected with, “I’m sorry, but can you define *move* for us?” A “move,” Fang-Pin Lee explained, was a large design element that characterized a space.⁸¹ As Angela Roberts Reeder said, such disciplinary terminology, while “necessary for the type of work that the experts do,” isn’t always understandable

to those without that expertise.⁸² Much of the team's early work necessarily involved translating across these languages.

Likewise, certain scientific terms, because they are aligned with areas of exhibit design, have to be defined for the group. As Richard Lewis related, one of the biggest skills for all of the nonpaleontologists at meetings was to become conversant enough in the field to engage with group conversations:

We want to be in a position where the people who are the most knowledgeable in the world about a particular subject can feel like they're having a conversation with us and we're holding up our end.⁸³

Likewise, Kara Blond said, "You need to know enough of those languages to translate across them."⁸⁴ In her previous life as a reporter, she had to be conversant enough in court language to ask good questions while being able to clarify unfamiliar statements or terms, to be able to say, "That word in particular could mean thirty different things. Which of those meanings do you intend?"⁸⁵

Indeed, Kara said, "the advantage of being a generalist is that you don't know those languages."⁸⁶ Angela Roberts Reeder similarly conveyed the importance of having nonexperts in the content of the exhibit, saying, "I think that's one of the advantages of having a writer who isn't a subject expert. I can sit in a meeting with our curators and ask the questions that our visitors need me to ask in order to get at the essence of the story."⁸⁷

There are other kinds of translations that take place when non-Core Team staff attend meetings, and the Core Team has to translate terms that have become adopted as group language. Such group terminology often developed in a matter of hours before becoming common groupspeak.

Throughout the process, the exhibit developer/project manager has the job of translating across the different expertises. Exhibits team members also have to translate the vast numbers of perspectives and expertises involved in other parts of the building renovation and development.⁸⁸

Friction as Political Work

Each member of the team, particularly at the early stages, is experimenting with how best to articulate their argument, convince others of their ideas, or see their ideas come to fruition. As media designer Richard Lewis articulated, the uniqueness of Smithsonian exhibit planning is that, rather than dealing with one charismatic individual, lots of people are at the table, "each of whom does have some degree of power. Each of whom has some authority that they can actually wield."⁸⁹

With multiple big personalities at the table, it's sometimes difficult, intimidating, or frustrating for nonscientists to assert their ideas and expertise. As Kara Blond said of this process, "some of it is being willing to stand up for what you think is right even in the face of a pretty hot response or a lot of pushback. And some of it is knowing when to fold."⁹⁰

In literature on the anthropology of politics, Fredrick Bailey writes about the ways that politics are not only about how individuals "advance themselves" but what "tactics" are employed, which work similarly "whether it is a principle or an individual which is being advanced."⁹¹ These game tactics for certain ideological positions are certainly at play in meetings. However, as I mentioned elsewhere, normative tactics for these debates are not always shared.

This was one of the biggest challenges for many audience advocates. As Angela Roberts Reeder told me, "I really have to think about what battles are worth fighting; how to negotiate and then where to say no. I'm still navigating that."⁹²

Even as the group develops a rapport and set of shared expressions and ideas, new people, visitors, or guests to these meetings redefine such tactics. At the beginning of the second workshop where Paleo department staff were invited, the exhibit developer commented that "Scott has offered to translate." Scott Wing replied, "Yes, I'm UN certified."

Meetings are thus not only about planning among the Core Team. Core Team meetings and other affiliated meetings with the exhibit can be used to strategically include other staff or important players in the process. This encouragement of "buy-in" is true more broadly of meetings at the museum. As Kay Behrensmeyer said of her time as associate director for science, assembling meetings becomes a "kind of creative communications design" in which actors or resources can be mobilized.⁹³

In interviews, perhaps because the exhibit was at an early stage, Core Team staff were reluctant to talk about who would have final say on any particular aspect of the exhibit. As Amy Bolton said,

I'm really curious to see what happens when we start saying things like, "The marine stuff has to go." And then what happens when the marine curators get wind of that one. I think Matt [Carrano] is working really hard to get as much input ahead of time as possible. But I think the hard decisions are going to come, and I'm not really sure how that's going work. Nobody wants to vote. I think some people will relinquish, I'm not sure. I'm not really sure.

When pressed about whether the final say was more likely to reside with curators than, say, the exhibit developer, Amy Bolton continued: "I think it's the curators. My impression is it's the curators." (This is my clear



Figure 2.10. Exhibit meeting with *Deep Time* Temporary and Core Exhibit Teams and Sant Director Kirk Johnson, May 2013. Photo by the author.

impression, too.) When I asked about final decisions further along in the process, Kara Blond noted that “it’s clearly not always consensus. Most things get worked out in the process . . . it’s a rare argument that ends up having to get a higher level in decision-making, but it happens.”⁹⁴ This is where additional teams come in. The exhibit process requires a breadth of expertise beyond the Core Team, especially as it moves into more developed stages. To start, two main in-house teams—the Advisory/Extended Team and the Approval Team—are directly involved in planning. Beyond that, many teams are involved in other elements of the project.

Complementary Group Imaginings

Many ideas and terms are tossed into meeting conversations. Some of them are volleyed among the group. Some are offered once and then never return. Of those that are volleyed, a few stick, and these become shared group expressions. Sometimes expressions emerge after a great deal of argument. Other times this process happens organically.

My favorite of these was during a discussion in the second workshop. The group was wrestling with how to illustrate past environments when

there are holes in the fossil record. Kay Behrensmeyer offered the comment: “We can’t say we’re not going to do it because we don’t have all the data—it’s an informed imagination.” Minutes later, that term was echoed by two other curators in the room, one saying, “Everyone knows we don’t know everything . . . who else can give it a stab than the people in the room? Some dates are irrefutable. Others are unknown. As Kay Behrensmeyer said, it’s an ‘informed imagination.’”⁹⁵

Group cohesion also happens through the invention or adoption of shared terminology for specific elements in the proto-exhibit design. One such term was “porkchops,” which began to be used to describe the uncannily porkchop-shaped placeholders in the exhibit design drawings for content that would take up floor space (any space that was not a thruway). It became common in the design process to have elaborate conversations about what was going to be in this or that “porkchop,” or how much space the “porkchops” were taking up. These terms are important not only because they are used to discuss imagined spaces and things but also because they help to form the group’s shared identity through language and joking.

There are also parallels in thinking between some of the fields of expertise at the table. For instance, designer Fang-Pin Lee said of scientists’ practice,

The way that scientists think about the world and the way they analyze, and they debate, and try to think of hypotheses, is not too dissimilar from the way designers have been trained to think creatively, and analyze, and problem-solve. . . . And I’m so glad that . . . when I chose to study design, I still ended up doing science.⁹⁶

These parallels can be creatively refreshing and professionally rewarding.

Creativity and Innovation as Complementarity

Many tension-filled discussions render highly creative and hybrid solutions to group problems. Many staff found working with other experts to be one of their most professionally exciting and rewarding experiences, despite differences of opinion and practice and despite the many outward or gossiped-about frictions I encountered. It was at these boundaries of knowledge and perspective that many people found themselves the most inspired and driven to do good work. As Fang-Pin Lee said of working with interdisciplinary teams,

I was inspired mostly probably by curators and their passion for what they do, their extreme passion for what they do. And their fascination and their relentlessness.

And so, working with them directly has probably been one of my greatest pleasures in my work and going behind the scenes, interacting with them, arguing with them, celebrating with them.⁹⁷

While some of this work can thus be difficult, writers and other exhibits staff do feel that having in-house scientists as resources is a distinct advantage. As Reeder said:

Having more access to the scientists and subject specialists . . . has been great. And the scientists that we have here want to get their message out. For the most part, they've all been willing to work with me and it's been really great.⁹⁸

As Kim Moeller, in-house designer (and previous graphics supervisor), said of the process,

I think once you go through a project together, you have a much better understanding about how projects work to make it an exhibit and what people's roles are and what their talents are and their education is, and all of those things . . . and there's a huge amount of respect. . . . By the end of that project, whether its six months later or a year later or five years later, you get it. You all get it.⁹⁹

Initial frictions and negotiations thus also forge important relationships and levels of respect across disciplines that ordinarily remain siloed in the museum.

Conclusion

This chapter has described group dynamics in exhibits planning, drawing on ethnographic methods of observation and in-depth interviews with *Deep Time's* various experts. In a project as large as *Deep Time's*, the number of people involved in the exhibit development process grows exponentially as it progresses. I used my own experience and observations as an entry into understanding the ways that these various experts are spatially and disciplinarily divided in the museum and how the roles of power and perception play into how these experts relate to each other. Meetings are unique in that experts operating in different disciplinary fields, modes of communication, and professional cultures come together to exchange ideas and vie for conceptual power.

Importantly (as we will see again in chapter 4 on content development), unique spaces of complementarity often emerge where paradoxical missions and values collide. These complementarities are described as professionally difficult but important for balanced, imaginative, and creative exhibit development.

In the next chapter, I describe the roots of these frictions and the development of collaborative exhibits processes with the influx of new expertise in the museum from the Smithsonian's postwar Exhibits Modernization program to now.

Notes

1. "Creating Exhibits: Policies and Practices of the Department of Public Programs, National Museum of Natural History, June 5, 1998, Draft with Modifications 2/04, Internal Report." (Washington, DC: Smithsonian Institution, 2004 [1998]).
2. Erving Goffman, *The Presentation of Self in Everyday Life* (New York: Doubleday, 1959).
3. Frederick George Bailey, *Stratagems and Spoils: A Social Anthropology of Politics* (New York: Schocken Books, 1969).
4. Homi K. Bhabha, *The Location of Culture* (New York: Routledge, 1994).
5. See Jennifer Shannon, *Our Lives: Collaboration, Native Voice, and the Making of the National Museum of the American Indian* (Santa Fe, NM: School for Advanced Research Press, 2014); Douglas R. Holmes and George E. Marcus, "Para-Ethnography and the Rise of the Symbolic Analyst," in *Frontiers of Capital: Ethnographic Reflections on the New Economy*, ed. Melissa S. Fisher and Greg Downey (Durham, NC: Duke University Press, 2006), 33–57; Douglas R. Holmes and George E. Marcus, "Cultures of Expertise and the Management of Globalization: Toward the Re-functioning of Ethnography," in *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*, ed. Aihwa Ong and Stephen J. Collier (Malden, MA: Blackwell, 2005), 235–53.
6. "Office of Protection Services," Smithsonian Institution, retrieved 14 January 2014 from <http://www.ops.si.edu/PSIO.html>.
7. "Internship Registration and Orientation Guide," Smithsonian Institution, retrieved 14 January 2014 from http://www.nmnh.si.edu/rtp/other_opps/guide_internships.html.
8. Technically there are six categories: adjunct scientist, research associate, research collaborator, student, fellow, and intern.
9. "SD 323 Use of Funds Handbook: Spending Policy for Federal and Trust Funds," May 2018 (v. 7.0). Internal Policy Document (Washington, DC: Smithsonian Institution, 2018), 32. This policy seems to be changing, as evidenced by the 2018 Smithsonian staff picnic to which contractors *are* invited. Contracting culture also varies from department to department.
10. Bolton 6.26.13.
11. Siobhan Starrs, personal correspondence, 30 April 2018.
12. Some shop staff are even unionized and have much stricter hour regulations; *ibid.*

13. "Natural History in the Age of Humans: A Plan for the National Museum, NMNH Strategic Plan 2016-2020," Smithsonian Institution, retrieved 6 December 2018 from https://naturalhistory.si.edu/sites/default/files/media/file/NMNH_StrategicPlan_2016-2020_accessible.pdf, 10.
14. "Understanding Diversity within the National Museum of Natural History: A Preliminary Report of NMNH Community Perceptions of Current Workplace Diversity," Office of Policy and Analysis, March 2012, Smithsonian Institution, retrieved 5 April 2018 from <https://soar.si.edu/sites/default/files/reports/12.03.nmnhdiversitypreliminary.final.pdf>.
15. Reeder 7.31.13.
16. Siobhan Starrs, personal correspondence, 30 April 2018.
17. Ibid.
18. Ibid.
19. Reeder 7.31.13.
20. Ibid.
21. Reeder and others 7.31.13.
22. Bolton 6.26.13.
23. Siobhan Starrs, personal correspondence, 30 April 2018.
24. Coddington 9.19.13.
25. Behrensmeyer 6.3.13.
26. Ibid., 3.
27. Dolovich 8.14.13.
28. Lee and Dolovich 8.14.13.
29. Ibid.
30. Ibid.
31. Blond 7.1.13.
32. Ibid.
33. Jabo 6.25.13; Kroehler 6.27.13.
34. Pinsdorf 6.21.13.
35. Siobhan Starrs, personal correspondence, 30 April 2018.
36. Wing 8.16.13.
37. At the time of writing this book, the exhibition has a total budget of about \$44 million, with more needed to fund future maintenance, updates, or other educational or research initiatives. Michael Lawrence, personal correspondence, 20 March 2018.
38. "New Amendment for Exhibition Design Services: Smithsonian Institution, National Museum of Natural History Paleontology Halls 'Deep Time' Exhibition—T12sol10027," Washington, DC: Government Services Administration, retrieved 15 May 2014 from https://www.Fbo.Gov/Index?S=Opportunity&Mode=Form&Id=A17854fb9640c10dd40d587f9855f1a2&Tab=Core&_Cview=1.
39. Ibid.
40. Holmes and Marcus, "Para-Ethnography" and "Cultures of Expertise"; also see Daniel Reichman, "Migration and Paraethnography in Honduras," *American Ethnologist* 38, no. 3 (2011): 548–58.

41. Jennifer Shannon, "An Ethnography of 'Our Lives': Collaboration, Native Voice, and the Making of the National Museum of the American Indian" (PhD diss., Cornell University, 2008), 15.
42. *Ibid.*, 10.
43. Angela Roberts Reeder, "Putting Dinosaurs in Their Place: Concept Script for Paleobiology Temporary Exhibition," Internal Report, 2013, Smithsonian Institution, Washington, DC, 8.
44. Goffman, *Presentation of Self*.
45. Bailey, *Stratagems and Spoils*, 5.
46. Bailey, *Stratagems and Spoils*.
47. Bhabha, *The Location of Culture*, 5.
48. *Ibid.*, 335.
49. Bolton 6.26.13.
50. This date is probably incorrect, anyway.
51. Reeder 7.31.13.
52. Coddington 9.19.13.
53. *Ibid.*
54. *Ibid.*
55. Love 8.7.13.
56. Werb 9.6.13.
57. *Ibid.*
58. Blond 7.1.13.
59. Reeder 7.31.13.
60. Bolton 6.26.13.
61. *Ibid.*
62. *Ibid.*
63. Werb 9.6.13.
64. *Ibid.*
65. *Ibid.*
66. *Ibid.*
67. Bolton 6.26.13; Love 8.7.13.
68. Blond 7.1.13.
69. Werb 9.6.13.
70. Bolton 6.26.13.
71. Coddington 1.10.14.
72. Bolton 6.26.13.
73. Coddington 9.19.13.
74. Bolton 6.26.13.
75. Coddington 9.19.13.
76. Blond 7.1.13.
77. *Ibid.*
78. Bhabha, *Location of Culture*, 36.
79. Mikhail Bakhtin, *The Dialogic Imagination* (Austin: University of Texas Press, 1991), 270–71.
80. Lee 8.14.13.

81. Lee 2.5.13.
82. Reeder 7.31.13.
83. Lewis 8.3.13.
84. Blond 7.1.13.
85. Ibid.
86. Ibid.
87. Reeder 7.31.13.
88. This is particularly important because “the relationship between the facility side of the house and the museum side of the house is really the most critical relationship, because it’s where the rubber meets the road,” Blond 7.1.13.
89. Lewis 8.2.13.
90. Blond 7.1.13.
91. Bailey, *Stratagems and Spoils*, 5.
92. Reeder 7.31.13.
93. Behrensmeyer 6.3.13.
94. Blond 7.1.13.
95. Behrensmeyer 6.3.13; Sues 1.3.13.
96. Lee 8.14.13.
97. Ibid.
98. Reeder 7.31.13.
99. Moeller 6.12.13.