

CHAPTER 1



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COLLABORATION

Teamwork is the ability to work together toward a common vision, the ability to direct individual accomplishments toward organizational objectives. It is the fuel that allows common people to attain uncommon results.

—Andrew Carnegie

Collaboration is not a naturally occurring instinct. For most people it is learned behavior. Studies are revealing that societies are actually beginning to evolve to become better collaborators, and the notion of survival of the fittest may be shifting. So why do we need to engage in this practice? As we move further into the twenty-first century, recognizing the continued need to advance from relying on a single decision maker to a more democratized approach is becoming the standard by which most organizations are run. To prepare the next generation of professionals and citizens, schools are placing emphasis on their students being able to collaborate, to work with others in a creative, innovative, and flexible environment. The twenty-first-century skill set must include critical thinking, communication, creative problem solving, and collaboration. We see this need emerging not only in the field of education but also in any field where a complex narrative is being crafted—whether film, theater, or gaming or for the more institutional narratives of mission and vision for corporations and big business. Museums have also taken up the collaboration charge, from how institutions are run to how exhibitions are developed, taking advantage of contributions from multiple sources to shape rich exhibitions for visitors.

Large photo: Liberty Science Center, Jersey City, NJ. Photo courtesy of Richard Cress.

Inset photo: Collaborative group. Photo courtesy of Polly McKenna-Cress

COLLABORATION UNPACKED

Collaboration, as defined in this book, is the intersection of thoughts and ideas from varying points of view to create multifaceted narratives and diverse experiences for a public audience.



Figure 1.1: Strong points of view of varied individuals provide opportunities to assess, engage, and strengthen outcomes. *Photo courtesy of Polly McKenna-Cress*

What collaboration does not mean is “design by committee” or “groupthink.” Strong points of view of varied individuals provide opportunities to assess, engage, agree or disagree, in order to make significant contributions to the depth of discussion and strength of final outcomes. For the museum, the collaborative group includes the exhibition team and institutional staff as well as outside stakeholders, experts, and funders. It also must include visitors, as they are the customers or end users of the museum “product” (Figure 1.1).

What Is Collaboration?

collaboration | kəˈlæbərāˈshən | *noun*

1 the action of working with someone to produce or create something

The *Oxford Electronic Dictionary*’s general definition is couched in the basic singular sense—one person working with another person. However, although an individual may have unique ideas for conveying a particular subject, new and innovative thinking will remain unrealized unless there are opportunities to shape ideas by involving others. The essence of collaboration means different parties are sharing information and developing ideas to produce *something*. This book deals with the larger, more elaborate collaborations in the creation of museum exhibitions, involving multiple individuals, groups, and/or multiple institutions that have a shared goal to create rich experiences meeting many requirements. The potential for greatness is significant, and it’s important to understand that the opportunities of collaborative groups are broader and deeper than any one individual could achieve.

Collaboration in its fullest sense is the intersection of different ideas from different points of view to create multifaceted and “new” thinking.

No One Said Collaboration Was Easy

Collaboration can be a difficult, exhausting, and time-consuming experience. At times it seems that only an imminent crisis with lives on the line can motivate a group to work together; it appears that motivation does not naturally occur otherwise. Intellectually we understand the merits, emotionally we feel the support, and physically it is nice to share the workload, but it can be stressful when opinions and egos collide.

Teams that are working toward a common goal often begin at the path of least resistance: a kickoff meeting to delegate responsibilities. This may pass for collaboration, but it isn't the same. It's simply task distribution—an important activity, but not one that will result in a breakthrough product. Teams must recognize that simply meeting as a group in a room together to talk once a week does not collaboration make. *Intentions* are the difference. Collaboration requires a shared commitment in which each person persistently pushes themselves and others to expand their thinking and engage in achieving common goals. This bears repeating: success depends on the *shared commitment*. One or two doubters—or participants with their own narrow agendas—can derail the entire process.

An essential first step for the team leader is to establish the expectations of the team, its purpose, and the commitment that will be needed to meet goals (Figure 1.2). Some good old-fashioned cheerleading and positive energy never hurts for group buy-in of the process. There are individuals who, when asked to join a collaborative process, react with negativity: “oh, it never works” they might say, or “people end up not liking each other” or “I always get stuck doing all the work.” Such individuals have probably never been part of a truly dynamic, successful collaboration and have not experienced the benefits and deep satisfaction that result when it works effectively. It's important to recognize that, while the process is not going to be easy, it will be worthwhile.



Figure 1.2: Shaping big ideas and mission for an exhibition through a group brainstorm discussion of descriptive terms. *Photo courtesy of Polly McKenna-Cress*

Coming together is a beginning. Keeping together is progress. Working together is success.

—Henry Ford

WHY COLLABORATE?

In his *Scientific American* article, *Why We Help* (July 2012), Dr. Martin A. Nowak posits “far from being a nagging exception to the rule of evolution, cooperation has been one of its primary architects.” He discusses the five mechanisms for the evolution of cooperation that works *in tandem* with competition, not against it as previously thought.

Millions of years of evolution transformed a slow, defenseless ape into the most influential creature on the planet, a species capable of inventing a mind-boggling array of technologies that have allowed our kind to plumb the depths of the oceans, explore outer space and broadcast our achievements to the world in an instant. We have accomplished these monumental feats by working together. Indeed, humans are the most cooperative species—super cooperators, if you will.

In the long history of humankind (and animal kind, too) those who learned to collaborate and improvise most effectively have prevailed.

—Charles Darwin

Literature from other professional fields, such as business or medical research, bears this out and makes clear that top thinkers have embraced collaboration as an important way of working. Dr. Nowak’s article goes on to discuss the need for all human beings to collaborate in the conservation of rapidly dwindling resources of our earth for collective survival. In short, if we don’t collaborate, we can’t evolve and may not even survive. We in the museum field can learn from this.

To Share Knowledge

In James Surowiecki’s book *The Wisdom of Crowds*, he discusses how groups of people large and small can come together to create solutions to critical problems. He outlines moments in history where aggregate knowledge was imperative and, in some cases, saved lives. Many of his examples are particular problems with objective solutions as opposed to open-ended, subjective outcomes. But his important hypothesis is that the more minds focused on solving a common problem, the quicker, more complex the solution that is reached. Is this collaboration? Maybe not, but shared knowledge is an important ingredient in collaboration.

Alone we can do so little; together we can do so much.

—Helen Keller

To Create Community

Social networks have brought people together for personal, professional, and political reasons, for serious discussions and frivolous entertainment. Social networks have been continually evolving as “the newest”

form of communication and, perhaps more important, as *community*. Even as of this writing, we have not yet imagined all the possibilities or impact of social networks on our society. These connections will continue to affect us all. And, as museums strive to be leaders in their communities, we need to keep pace with change.

To Facilitate Decision Making

Every tool has appropriate times and situations for its use. As a tool, the collaborative process is no different, and it should *not* be employed at all times or in all situations. Collaborative engagements should be considered carefully. Collaborative efforts should facilitate the important decisions that must be made to yield the best results. Sometimes, it's best to have a single decision maker who can drive the progress. For team-based initiatives, this means recognizing the moment when shared commitment must shift over to trust in leadership.

WHY COLLABORATE IN MUSEUMS?

We can understand in the broadest sense how collaboration has advanced human achievements and has applied to different professional disciplines. Still we often hear “why should we collaborate? Should museums be particularly concerned with a collaborative process at all? How can collaboration help museums to thrive?”

Most good museum exhibitions are the ultimate examples of inter-, cross- and multidisciplinary enterprises. Their creation requires diverse people with multiple viewpoints and diverse skill sets during all phases of development because visitors come to exhibitions with varied knowledge bases and interests, and from different backgrounds and cultures.

Visitors are our most important collaborators, and their opinions, needs, and input must be considered in the creation of the experience. Just because you build it does not mean they will come. If they do come, they may not care. As society becomes more and more user-centric and customer feedback opportunities abound, it's simply not smart to leave your ultimate customer out of the conversation. The entertainment industry cares about its audiences and meeting their needs and expectations. Museums are in the same business—competing for audience attention, commitment, and satisfaction.

Many ideas grow better when transplanted into another mind than the one where they sprang up.

—Oliver Wendell Holmes

The last collaborator is your audience, so you've got to wait 'til the last collaborator comes in before you can complete the show.

—Steven Sondheim

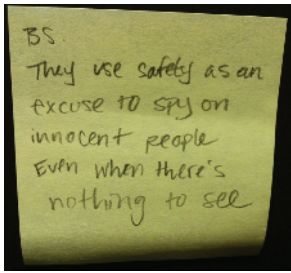


Figure 1.3: Visitor's Note from a "Talkback Wall" at the National Constitution Center. *Photo courtesy of Polly McKenna-Cress*

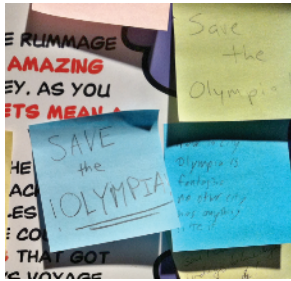


Figure 1.4: Visitor's Note from a "Talkback Wall" at the Independence Seaport Museum. *Photo courtesy of Ricahrd Cress*

As museum teams plan, develop, and design exhibitions, collaboration is the critically important element in creating elegant, creative solutions that continually engage diverse visitor audiences who care and come back. We've said it once before: if we don't collaborate we can't evolve and may not even survive.

Survival Instincts

There are three main survival instincts museums must possess that are best fueled by collaborative models in the development and design process:

- Varied points of view
- Interdisciplinary engagement
- Innovation

Varied Points of View

Teams should not meld the richness of viewpoints into one diluted generality. Rather, they should allow strengths of conviction to come through, trusting collaborators—including visitors—to understand that there are many ways to approach a problem or create a solution. The intersection of ideas does not mean the obliteration of viewpoints (Figures 1.3 and 1.4).

There are numerous methods to gather museum visitor points of view. One that is frequently employed is to pose questions and provide sticky note pads and response board for visitors to post their written feedback. Visitors tend to be very candid and honest in this approach.

Interdisciplinary Engagement

Historically, people have sought to apply taxonomies to everything in our world, sometimes to the detriment of revealing important connections and deeper understandings. "Interdisciplinary" is a term that has become ubiquitous, yet it is meaningful all the same. Museums understand that interdisciplinary engagement—the act of creating opportunities for interconnectedness across varied disciplines—is a critical function.

Innovation

Basing program and exhibit development on the limited experience and knowledge of a single person is simply not acceptable in an age where access to information, knowledge, and people are at one's fingertips. Visitors are increasingly demanding innovation beyond what they can find on the Internet themselves, and museums must rise to the challenge.¹

HOW TO COLLABORATE

Collaboration is often a misunderstood practice. Many people believe a collaborative process requires that those involved make all decisions collectively with little or no disagreement or friction. This notion is one of the fastest killers of this process. Trying to make every decision as a group makes for a long and protracted experience that will exhaust and frustrate everyone involved. Avoiding friction leads everyone to place importance on “getting along” instead of putting that energy into pushing each other to craft the best solutions. While shared knowledge is an important ingredient, a frequent misconception is that collaboration needs many participants—bigger must be better. But bigger frequently slows or even stalls the process, with too many cooks in the kitchen. Participants entering into collaboration need to understand the different forms of group engagement, the potential models of successful teamwork, and how natural human behaviors will affect the process. (See our Science Gallery case study at the end of this chapter.)

Collaborative Methods

There are subtle yet important distinctions in understanding how collaboration works; identifying differences between the “collaboration” and “teamwork” structural models has proven helpful. In a collaborative model, individuals work together to achieve an intersection of each other's ideas by contributing thoughts, knowledge, and experiences to create a new “something.”

The teamwork model is well illustrated by a baseball analogy: players on the team have distinctly defined roles, each demonstrating separate

There is a creative act involved by the receiver as well as by the sender and that makes for innovation. Both sides are equally important.¹

—J. Kirk Varnedoe
*formally chief curator of
the Department of Painting
and Sculpture at the
Museum of Modern Art*

¹ http://creatingminds.org/quoters/quoters_v.htm

efforts that support the same desired outcome: to win the game. Catchers and pitchers do not combine the “content” of their roles; rather, their roles are distinct complements to one another. Awareness of the methods being engaged and each participant’s role helps a team confidently proceed forward.

To correlate these working methods to the creation of exhibition: The *collaborative* discusses and defines the mission, goals, and audience for the exhibition. Once those criteria are set, the *team* may go off and produce individual deliverables—graphic treatments, script, multimedia elements, marketing strategies, and the like—that all support the outcomes established by the collaborative.

Collaborative Models

Without vision and shared passion, people may go through the motions but may not jell as a team or produce fruitful outcomes. There are several models for successful collaboration, and at the core of each is an ideal that everyone supports. The following models have worked well in many different fields, but particularly for museums.

Core Group Collaboration

This may be the most often used model. It is a small and agile core group that has a strong collective vision for how the project needs to proceed, though the members might vary in the methods they use to achieve the same ideal. Members encourage each other to stretch boundaries for themselves and the best solutions. The core group typically brings in outside contributors for critical input to realize the vision and enhance outcomes.

Visionary Collaboration

In this model, a single visionary leads the group, although it may seem counterintuitive to collaboration. The distinction is that the visionary needs collaborators to share the passion, understand the vision, and support its development so that the project can be accomplished. This model is dependent on the visionary recognizing his or her role as a leader of a collaborative team and not a dictator (Figure 1.5).

A teacher (manager) who learns how to use team-learning methods to transform “groups” into “teams” (like water into steam) will be able to create a learning experience for students (staff) that is extraordinarily powerful.

—L. Dee Fink, *director of the Instructional Development Program at the University of Oklahoma*

The City Museum

St. Louis, Missouri

Bob Cassilly (1949–2011), founding director, launched this idiosyncratic museum with a strong vision for how a museum built from recycled parts of the city could reflect the true identity of St. Louis. From the City Museum’s airplanes and high-wire tunnels to the historic roof-deck Ferris wheel, there were many individuals who shared this one man’s vision and helped build this labor of love. The strength of these collaborative efforts continues today as the museum tries to sustain the vision beyond the man.



Figure 1.5 The City Museum, Saint Louis, Missouri, is the vision of an individual who rallied a city to support turning the vision into a reality. *Photo courtesy of Paul Martin*

Greater Purpose Collaboration

This model has a strong vision and has clear, objective outcomes that are easily understood by many people. It is external and public. It does not have to be embodied by one visionary, but it is driven by societal issues and needs that can be scalable. Although the goals are clear, the means of getting there is the work of the collaborative. This model is one that can typically sustain more than one institutional partner (Figures 1.6 and 1.7).

Race: Are We So Different?

A traveling exhibition developed by the Science Museum of Minnesota and the American Anthropological Association is the result of a “greater purpose collaboration.” The team was clear and passionate about the project’s goal: to illustrate that race is not scientifically based but is a social construct that has been used by society to define people throughout history. The collaborative engaged in tough considerations of sensitive subjects to determine how it would accomplish this thought-provoking exhibition. By helping visitors to better understand the concept of race through the lenses of history, science, and lived experience, the team created a powerful exhibition that inspires visitors to share, discuss, and rethink their assumptions.



Figure 1.6: *Race: Are We So Different?* A traveling exhibition created by the American Anthropological Association in collaboration with the Science Museum of Minnesota. *Photo courtesy of Science Museum of Minnesota*



Figure 1.7: *Race: Are We So Different?* Here a family is sharing and discussing the contents of the interactive exhibit. *Photo courtesy of Science Museum of Minnesota*

Roles and Resources

The critical first step in any collaborative process is to establish roles, a schedule, a budget, and resources. When one of these elements is unclear, the situation becomes ripe for conflict. All participants must understand parameters and agree on the needs, rules, and behaviors that define how the team will work together. Doing so provides clarity and awareness. When entering into a collaborative process, no one should be of the mindset “we will ask forgiveness later.” If the team is aware of issues or problems early enough, it can work toward solving them or addressing them. But if any team member avoids or diminishes problems, for whatever reason, other team members will lose trust in each other.

Trust and Understanding

People do their best work in a trusting environment. Ultimately, trust and understanding are the most important attributes for collaborators to possess, because these are key to a shared commitment. Trust is built in any relationship when there is confidence that one can freely address mistakes. If individuals believe that they are expected to work flawlessly, swiftly, and without issue, then an inherent defensiveness, a need to cover, justify, or blame others will override progress when the inevitable mistakes occur. If the team is allowed to take risks and make mistakes, a productive and constructive environment naturally emerges, one that facilitates learning and growing.

Decision Criteria

The team and stakeholders must work together to establish and “own” objective criteria used to assess the exhibition components or programs and make decisions during development. These criteria are the mission, goals, objectives, and audience impact. The team should also establish clear decision criteria and a team hierarchy for addressing problems during the process. Decision making is not about democracy at all times; otherwise, no real decisions will get made. The team should establish who has authority at various stages during the process; this authority will naturally shift according to the work being engaged in.

Once all criteria are established, the team and stakeholders can move forward and make decisions, never losing sight of the ultimate mission of the undertaking.

Mutual Respect

Successful collaboration is not based on friendship but rather on building and sustaining mutual respect. The respect team members develop for one another is also a respect for the process and the goals established. If team players do not respect each other, the process is extremely difficult to bring to a successful conclusion. Even when individuals do not necessarily enjoy being together socially, they can be respectful toward one another in order to develop successful outcomes. In most instances, the preferred relationship is not “chummy,” but simple civil discourse.

Process Example

Kate Quinn, Director of Exhibitions at the Penn Museum (University of Pennsylvania Museum of Archaeology and Anthropology), discussed the frustrations expressed by the team when deadlines are missed. When she took her position, Ms. Quinn was responsible for “schedule creation.” When deadlines were missed, she became aware that the schedule was viewed as “hers” and not the team’s responsibility. To remedy the problem, she made adjustments and involved the curators, developers, designers, and other team members for input on the schedule parameters. By collaborating on the creation of the schedule, the team took ownership of it and realized their responsibilities. The different staff members could now see how their work fit into the whole and how others’ needs and the success of the overall project depended on their timely completion of work. The schedule changed from single ownership into a shared ownership.

Five Dysfunctions of a Team

- **Absence of Trust**

For all teammates, including the leader, can vulnerability be expressed without repercussion? Can a teammate say openly, “I don’t know?”

- **Fear of Conflict**

Productive ideological conflict is good. If teammates fear repercussions—real or imagined—from expressing counter viewpoints, the team environment can become unhealthy, and frustrations can come out in other divisive ways. Dialogue and debate should be encouraged, even when there is not agreement; the team leader should recognize when it’s time to resolve debate and put issues to bed.

- **Lack of Commitment**

Without healthy debate, there will not be commitment. However, once decisions are made following debate, the entire team must get behind them. Team members need to be able to say, “I may not agree with your ideas, but I understand them and respect them, and I’ll support the team’s final decision.”

- **Avoidance of Accountability**

If you don’t have commitment, there is no buy-in and, therefore, no accountability. Commitment leads to a sense of camaraderie and collegiality needed for a team effort. If “letting the team down” is abhorrent to an individual, he or she is more likely to be accountable for his or her actions and the outcomes of the team.

- **Inattention to Results**

If the team members are not accountable, they will take care of only themselves rather than of the entire team. When team dynamics go awry, the team goals get subverted for individual goals. What is team one in your mind—the team you are on or the team you lead? You must be a good, solid team member before you can be a good solid leader.

From Patrick Lencioni's *Five Dysfunctions of a Team: A Leadership Fable*, San Francisco, CA: Jossey-Bass/John Wiley & Sons, 2002.



Figure 1.8: Complaining: When there is too much time spent on complaining and being negative nothing of worth gets accomplished. Collaborators need to stop whining and focus on moving forward. *Illustration by Meghann Hickson*



Figure 1.9: Criticizing: When people feel that they cannot offer much that will not be criticized they will shut down and stop being contributing members of the team. Any and all new ideas can be picked apart and overly criticized; the team needs to give ideas a chance to grow and become great. *Illustration by Meghann Hickson*

When Things Get Tough

Knowing How to Fix Problems

Collaboration is important, but like anything else problems can arise. Collaboration, like a newborn baby, needs to be constantly fed, nurtured, and closely watched; if left unguarded, something inevitably will go awry. If we didn't address problems here we would only be taking care of half the job. It cannot be stressed enough that defining roles, resources, and decision-making criteria is critical. Most problems arise from paying inadequate attention to any or all of these items. A dysfunctional team will most likely yield dysfunctional results. Recognizing problematic conditions and behaviors and addressing them head on are necessary.

Collaboration Killers to Watch For

There are four factors that are always present in collaborative environments because they are common to human interaction: *complaining*, *criticizing*, *conflict*, and *compromise*. Be observant and direct in dealing with each factor as it emerges. Maintaining a balanced approach to these factors is important to the success of the team.

Complaining

One of the hardest parts of working in a group is to mitigate the “bitching factor” and commiseration as a form of team bonding. A certain amount of “blowing off steam” is important in any group process, but when complaining turns to constant negativity, it's simply draining on the team. Having a common enemy is one of the fastest ways for individuals to align but bonding through negativity toward others will inevitably turn team members against one another. This can be a hard threshold to identify, so the team must be self-aware and address this threat before it gets out of hand. Negativity, at the extreme, can derail a project (Figure 1.8).

Criticizing

As the team works to build its trust and collegiality, a major obstacle can be the overly critical individual or small group. In many teams, there are risk-takers and people who love to generate ideas. There are others who sit back, offer no ideas, only comment critically on what's being generated, and they often can't provide solutions to their criticisms. This is not constructive. This leads to overall team frustration and the breakdown of the shared commitment. It's important to encourage debate and discussion, but when the time comes, to get on board and make decisions as a team (Figure 1.9).

Conflict

The collaborative process naturally breeds conflict, some good and some destructive. Disagreeing on issues is important to facilitating critical analysis and building awareness. But conflict can start out as simple friction and seem benign; if not attended to, it can lead the team toward hurtful, unprofessional, and destructive behavior. Disagreement, if not managed well, can destroy the process and have lasting consequences (Figure 1.10).

Compromise

Too much conflict is a bad thing, but too much compromise can be deadly. When conflict arises, teammates generally recognize the need for mitigation. Some may feel that a successful collaborative process just means giving in. You don't want compromise to dull down an effort to the point of banality. Compromise can actually be the antithesis of collaboration; we want to be building upon one another's ideas and pushing each other to look at the subject in new ways. Conceding a point or agreeing without question may simply be avoiding important discussions. The challenge is to strike the right balance between conflict and compromise so that the outcome is the strongest solution (Figure 1.11).



Figure 1.10: Conflict: If disagreement leads to finger-pointing, it will destroy the collaborative process and have lasting consequences on the project. *Illustration by Meghann Hickson*

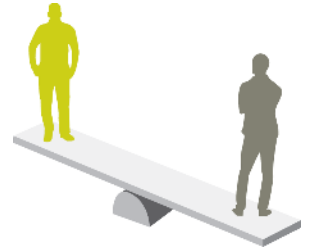


Figure 1.11: Compromise: Collaborators want to find the balance between conflict and compromise. Too much compromise might render the project banal and boring. *Illustration by Meghann Hickson*

A Case Study in Extraordinary Collaboration Science Gallery at Trinity College

Dublin, Ireland

Three people in a room cannot dream this big. You need to tap into people and networks to create these types of complex experiences.

—Michael John Gorman,
Director, *Science Gallery*

Launched in 2008 under the direction of Michael John Gorman, the Science Gallery (SG) at Trinity College, Dublin, Ireland, employs one of the most effective uses of the collaborative process as has been developed anywhere for a public exhibition forum. The mission of the Science Gallery is to recognize and be deeply involved in “inspiring, nurturing and recruiting talented young people to bring a lasting excellence to research and innovation that is so crucial in today’s society.” With a target audience of 15–25 year olds, the Science Gallery inspires and transforms curious minds through an ever-changing program of exhibitions, public experiments, challenges, festivals, debates, and workshops to help people discover, express, and pursue their passion for science. “The Science Gallery is a world first. A new type of venue where today’s white-hot scientific issues are thrashed out and you can have your say. A place where ideas meet and opinions collide”² (Figure 1.12).



Figure 1.12: Science Gallery at Trinity College during the installation of *Human+: The Future of our Species*, spring 2011. Photo courtesy of Polly McKenna-Cress

Although the focus of SG is on science, the museum expands the way science is typically explored. Collaborators exploit contemporary art making, engineering, and design thinking as ways to understand our world and express powerful and meaningful ideas. Physicists, engineers, musicians, lawyers, artists, humanities curators, and teenagers compose the Leonardo Group. This interdisciplinary group of curators taps into its different networks of experience to ensure that the group covers a broad range of thought from which a “seed idea” or theme for a show is generated.

These seed ideas are then outlined in an “open call” that is sent out to an international group of innovators from a variety of backgrounds and disciplines. Proposals submitted to the Leonardo Group are reviewed and discussed. Projects that are deemed to best provoke new thinking and innovation are selected to be prototyped, developed, and implemented in the 2,500 sq. ft. gallery space.

The innovators/creators of the selected projects are invited to participate in the exhibition as lecturers, to run workshops, or simply to be in the space interacting with the public over the course of its installation.

The SG has a mission to invest in high-risk projects. Selected projects range from existing products or experiments to completely speculative ideas and proposed processes. These “speculative designers and scientists” as Mr. Gorman refers to them, are not planning for today but proposing what could be in the future. He goes on to explain that a key goal for the SG is to introduce not only proven ideas, but also conjectural projects. This is not only a way for visitors to the gallery to be part of the development and incubation of new concepts, but also creates a space from which new thinking and projects actually emerge (Figures 1.13 and 1.14).



If life does anything, it makes copies of itself. It is one of the traits every living thing shares with every other living thing. Since the dawn of agriculture and animal husbandry, humans have developed increasingly elaborate strategies for preventing this self-copying behaviour when they view its product as undesirable. The reasons for doing this are as numerous as the means by which it is accomplished. Included in this exhibit is a small selection of strategies of reproductive control that have been developed and used in modern times.

HOW HAVE HUMANS SHAPED THE EVOLUTION OF THE PLANT?

The Center for PostNatural History is a public outreach centre dedicated to exploring the intersection of culture, nature and biotechnology. The PostNatural refers to the life forms that have been intentionally altered by humans through domestication, selective breeding and genetic engineering. Towards this end, the CPNH maintains a collection of living, preserved and documented specimens of PostNatural origin.

Figures 1.13 and 1.14: *Human+: The Future of Our Species* includes innovative installations such as a new species of flower genetically engineered from DNA of a petunia and from the artist, Eduardo Kac. The label provokes visitors by asking questions such as “How Have Humans Shaped the Evolution of the Plant?” and to think in a new ways with statements such as “The PostNatural refers to the life forms that have been intentionally altered by humans through domestication, selective breeding and genetic engineering.” Visitors wonder what a plant with their DNA may grow up to be. *Photos courtesy of Polly McKenna-Cress*

Levels of Engagement

The Science Gallery system fosters engagement from internal communities of Trinity professors and external research scientists and artists. Trinity College borders on one of the most economically depressed parts of Dublin, so the Science Gallery has positioned itself as a conduit between the academic side of the street and the underserved communities across the way. All these groups are encouraged to be a part of the

The creators don't want to simply send their work in a crate to be hung on a wall but come and interact in the space with the public. They enjoy the buzz of mixing with the community in the space, and new projects are inevitably born from that exchange.³

—Michael John Gorman,
Director, *Science Gallery*

Science is never about the individuals it is always about a team. . . individuals with different strengths that complement your own working together to build something new and innovative.²

Shane Bergin, *Trinity College graduate in Physics and member of the Leonardo Group at the Science Gallery, spring 2011*

exciting creative power of the space in the hope of igniting new passions for science and potential careers.



Figure 1.15: A personal biosphere or “individual cocoon habitat” conceived and created by Zbigniew Oksiuta. *Photo courtesy of Polly McKenna-Cress*

As young visitors return and get more involved, they are tracked and invited to volunteer as docents in the gallery. If the visitors remain engaged, they can move up in the Engagement Pyramid and can ultimately be invited to join the Leonardo Group—continuing the feedback loop of collaboration. With participants as young as 17 serving as volunteers, long-term engagement is an extremely successful way to encourage individuals who may otherwise never have considered engaging in cutting-edge professional science experiments or pursuing science-based creative careers.

A number of the projects presented in the SG space have received national and international recognition. With this awareness, funders have approached differ-

ent creators/researchers and offered seed money to support efforts in advancing projects to the next level.

Science Gallery is a prime example of a public exhibition space that employs key models of collaboration: as an imperative for innovation, intellectual, and economic growth; as currency to move forward science and technological advances; and as a means to share global knowledge and ultimately build a stronger community (Figure 1.15).

This case also demonstrates the key survival instincts we’ve identified where collaboration can serve particularly well in a public forum. Those involved in this project seek varied points of view from the Leonardo Group, interdisciplinary creators/artists, and the diverse audiences the Science Gallery serves. They encourage an interdisciplinary approach, marrying science, engineering, design, humanities, and the arts. By positioning themselves so smartly within the community, they’ve made inclusivity and diversity key goals. There are very few environments that exist, particularly public ones, that could claim to be more innovative at incubating ideas.

*Innovation comes from the clash of ideas. Innovation comes from tension. . . Ideas meet and collide at the Science Gallery.*²

Chris De Burgh, musician and member of the *Leonardo Group at the Science Gallery, spring 2011*

² www.sciencegallery.com/this_is_science_gallery

³ Interview with Michael John Gorman at the Science Gallery, April 2011

AN INTRINSIC IMPERATIVE

Collaboration is not a fad or a buzzword. It is an *intrinsic imperative* if we intend our museums to be current as well as culturally and socially responsible. We do not advocate for museum authority to be dissolved, which is a fear of some museum professionals. Rather, we assert that institutional authority can only be strengthened if it is rooted with the survival instincts we've outlined in this chapter. It is not enough to be a collector, connoisseur, or simply educational institution anymore. In order to survive, museums must be actively relevant for contemporary audiences.

In the chapters that follow, we'll explore where and when certain critical decisions should be made and suggest who should be involved in making them.

FURTHER READING

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Surowiecki, James. *The Wisdom of Crowds*. New York: Anchor Books, a division of Random House, 2005.