Crossing Boundaries: The Art of Anjali Deshmukh and Rohini Devasher
(In Collaboration with the Artists)

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In an interesting new development in the art world, a generation of artists are [sic] now collecting data about their world using technological instruments but for cultural purposes. Shared tool-using leads to overlapping epistemologies and ontologies. These artists both make powerful art and help make science intimate, sensual, intuitive.¹

Anjali Deshmukh, who resides in New York City, and Rohini Devasher, who lives in New Delhi, are two artists crossing several kinds of boundaries in both their art and their life.² These artists utilize systems like feedback loops and other forms of digital technology innovatively.³ Their broad interests may reflect the trend of artists who have undertaken different programs of higher education instead of enrolling exclusively in an art school. Within art history this new direction may be seen as an offshoot of conceptual art; however, for Deshmukh and Devasher an emphasis on handmade practices forms an important component of their work and functions alongside a strong conceptual direction.

In this article I discuss the practices of two artists of Indian background by examining their use of sophisticated technology, interest in science, and the effects of globalization and the Internet on their artwork. Both artists emphasize systems and structures related to biology, psychology, sociology—in other words, academic disciplines that encompass some of the most important mapping of human behavior. Despite the fact that these two artists live in different environments, globalization, cosmopolitanism, the Internet, and other forms of crossing boundaries have created more similarities than variances in their practices. One profound similarity is the strong relationship between text and visual image. The conjoining of these two forms of expression is a growing phenomenon in the larger world of global contemporary art. Text has always played a crucial role in the viewing experience—sometimes before, sometimes during, and often after direct perception of the art object. This is not to suggest that most artworks are not primarily visual, but rather that perception has always been linked to concepts denoted in language, and this is even more apparent today.

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Another trend in both artists’ output is their interest in interactive art events in conjunction with the creation of objects. They cross boundaries between an art historical tradition and aesthetic that is rooted in things intended for exhibition and viewing within institutional frameworks, toward what Nicolas Bourriaud has theorized as the relational aesthetics in which “the role of artworks is no longer to form imaginary and utopian realities, but to actually be ways of living and models of action within the existing real.” In an interesting turn away from a superficial crossing of borders, both Deshmukh and Devasher eschew hybridity in their work. Since the 1980s, the art of both transnationals and artists who remained in their country of birth has been marked by this dominant theme, which Marwan Karaidy has referred to as a global, commoditized hybridity, or a superficial multiculturalism in which icons of East and West are “pasted” together.

Hybrid cultural forms are not anomalies in media globalization. Rather, the pervasiveness of hybridity in some ways reflects the growing synchronization of world markets. This irony is expressed best by Oliver Boyd-Barrett (1998), for whom market forces have contributed to an “increasing hybridity of global culture, ever more complex and more commodified.” Nonetheless, this global culture is “everywhere more complex and more commodified in the same sort of way.”

This turn away from a facile hybridity is apparent in the work of many younger artists across the globe, and it is one major reason that the concepts behind the creative work of an artist of Indian background living in the United States and an Indian artist living in India are similar. Like many younger artists, Anjali Deshmukh and Rohini Devasher are crossing boundaries not only between disciplines but also across national and cultural borders. While the forms of art have become amazingly diverse throughout the twentieth and the first decade of the twenty-first centuries, they have primarily emerged as outgrowths and expansions of previous forms and styles within a taxonomy structured by Western art history. The artists I am discussing, while still utilizing material practices, rely increasingly on electronic technologies that are outgrowths of the Internet. As a consequence, what is rapidly emerging is a complex digital art as a new global form. The World Wide Web also enables global exchanges that expedite this development, and the Internet is emerging as a new and appropriate venue to exhibit new practices. In many ways this is a profound turn of events as the works of artists from everywhere are now able to bring their contributions to a global audience, thereby laying a path that will undermine the power of the art world and its various institutions to control creative practices.
An important factor in influencing change is that the younger generation of artists is often educated differently from prior generations, and some of them are as well versed in areas like cosmography, astronomy, ecology, botany, biology, engineering, physics, mathematics, as they are in their art practices. This diversity of interest allows for an exploration of the transcultural through the lens of the sciences, which function in a “universalist” sense wherever science is practiced—even if context favors one direction over another. Of course, there have been artists in the past whose work has been brushed with a veneer of science; but for some artists of the current generation, science is as intrinsic to their creative thinking as artistic practices. This pursuit across disciplines could result in a breaking apart of the disciplinary boundaries that still function in academic institutions. These artists are also less interested in serving as tokens of their countries or their cultures within a global art scene.

The tedious themes that dominated much discourse in the Indian art world between the 1950s and the 1990s have been rendered irrelevant. The anxiety of national identity, typically phrased in the form of apocalyptic binaries such as “Indianness vs. internationalism” or “tradition vs. modernity,” has receded; the chimera of auto-Orientalism, with its valorization of a spurious “authenticity,” to be secured as the guarantee of an embattled local against an overwhelming global, has been swept away.7

Often cosmopolitan in their outlooks, they are sensitive to the profound changes that govern almost every personal way of being in the twenty-first century. Their use of science emerges from a wish to understand the major issues and events that endanger the earth and to join their knowledge to visual practices that enable that understanding. At the same time, many artists still want to pursue different material practices and heritages that are often vehicles for evolving aspects of cultural differences. This may serve to counter the critique that the Internet and globalization produce homogeneity, since borders are crossed in almost every sphere of living in the contemporary world.

I have chosen these two artists from among the many that utilize elements of science in their work precisely because they employ traditional artistic media like drawing and painting in conjunction with sophisticated forms of digital media and elements of scientific research. It is more often the case that artists who are interested in science and digital media consider traditional art practices to be out of date, and as a result crossing boundaries between art and science is not a primary concern. In this essay I argue that crossing boundaries between nationalities, cultures, disciplines etc. is a major effect of globalization and can be the generator of innovation in each of these spheres.8 For instance, Devasher is an amateur astronomer who also studies the relations between the biological laws that govern growth; she uses these relations as metaphors in creating
uncanny digital photographs, videos, and drawings. Deshmukh is interested in systems employed in games and map-making as well as in complex theories of cosmography and the relations between reason and subjectivity, which she explores in her paintings, installations, digital prints, and related writings. Alongside the art/science aspects of their artworks, an underlying theme for both is the return of the romantic notion of the sublime. Both artists embrace it as metaphor for the post-apocalyptic sentiment that permeates a great deal of contemporary art. As mentioned above, they also share a manner of writing about their work that is complex, articulate, objective, and far from the emotive subjectivism of artists who often described their creative practices by denying the efficacy of verbal explanations. In addition, while both artists exhibit many of their works in traditional venues, electronic media allows for an encounter with their art that is in ways parallel to, while different from, engaging them in physical space; in other words, electronic media is rapidly emerging as a new venue for exhibiting art.\(^9\)

Major differences between the two artists emerge as well: Deshmukh’s earlier work referenced religious iconography, particularly Hindu symbolism, and her art is more deeply rooted in political and social concerns. Devasher, on the other hand, uses scientific theories in order to create surreal and sometime monstrous forms that depict genetics gone awry. Another crucial reason for choosing both of these artists as case studies for crossing boundaries within the context of this article is their South Asian heritage. This introduces cultural issues as another factor in exploring the theme of crossing boundaries. What is interesting to note here is that while Deshmukh was born and educated in the United States she is transcultural in her embrace of aspects of inherited Indian culture. In contrast, Devasher, born and educated in India, tends to eschew obvious references to that culture. Comparison of these artists challenges the tendency to form stereotypical interpretations drawn from notions about cultural and national differences, particularly in this age of globalization.

Prior to discussing their artworks, it is crucial that I define the manner in which I use the terms art, science, technology, and crossing boundaries. Western art is usually defined as a series of endeavors that seek an emotional or aesthetic response to the (in this case) visual creations that are produced; it values idiosyncratic or original perspectives that are at odds with traditional practices. This is a modernist point of view that does not include many of the traditional visual objects produced in the West and is inadequate for the practices we label postmodernist and contemporary. Furthermore, it is obviously erroneous when applied to the “art” of many non-Western cultures. The very notion of art as a separate category of human endeavor has been the subject of debate in aesthetics, sociology, and particularly in critical theory for many decades. The current use of the term “visual culture” is an attempt to address that critique. With these caveats in mind, I will discuss practices in the visual arts as picturing real and
imaginative worldviews from both a subjective and objective viewpoint. They can appeal to both the senses and the intellect and exist in a variety of venues, some of which are free of the constraints of galleries and museums.

Science is usually defined in the following manner: “The underlying assumptions of the scientific approach are that the natural observed world is real, nature is essentially orderly, and objectivity can be achieved through self-discipline and the reliance of techniques such as the calibration of instruments, repeatability, and the multi-observer verification.” While this definition of science is still the default position, contestation of the objectivity of scientific observation and the notion of reality has been ubiquitous in modern and postmodern critical theory. Akin to the questioning of the nature of art is the contextual component of scientific observation, as well as contesting theories about the essential order of the world, let alone the entire cosmos. Acknowledging the importance of these theoretical issues for the purposes of this discussion, I will adhere to the definition proposed above in order to understand the ways in which these artists integrate the scientific approach in their practices.

The third component, technology, is usually considered the handmaiden of science and a tool used to solve problems rather than a means of discovering basic principles:

This situation has become complicated, however, because researchers in technology often move into areas where there is little established scientific knowledge, thus opening up new worlds for science to explore. For example, researchers attempting to enable computers to simulate human intelligence have raised new questions about the nature of the brain.

In the work of Deshmukh and Devasher, technology has served as a tool with which to cross the boundaries of art and science, and to explore digital technology as a mechanism for generating new visual forms and for viewing them.

The designation “crossing boundaries” is both vast in application and vague in meaning, as it is ever shifting. It comprises the actual boundaries crossed by physical bodies and the boundaries in social, political, religious, and cultural arenas, as well as the crossing of artificial barriers between disciplines, particularly in the academy. In the history of art, the separation between the dominant West and everywhere else, and the system of defining “isms”—arguably the results of the Enlightenment—still prevails, though it is being slowly eroded mainly through the crossing of boundaries. In this article, I am most interested in addressing crossing boundaries in the arena of cultural exchanges that have been enabled by globalization/cosmopolitanism and the Internet and exploring how they affect artists’ practices.
**Transcultural lives**

In this comparison of two artists who live in different countries, it is interesting to note the similarity in the cosmopolitan nature of their lives: both are children of highly educated parents and are highly educated themselves; both are urban dwellers and have grown up and currently live in dynamic centers of political power and culture life. Deshmukh was born in Washington D.C. in 1979 and was raised in Bethesda, Maryland. India has always played a large role in her life, but from afar: her parents are from Maharashtra, and Marathi was the language in the family home when she was young. She writes about her parents:

> My mother, Saudamini Deshmukh, is from Pune, Maharashtra. She first came to the U.S. in 1967 as a student and received her PhD from Harvard in Sanskrit. She continues to work in language education and translating ancient Sanskrit texts into English. My mother is liberal politically. My father was from Achalpur, Maharashtra. He came to the U.S. in 1973 after attending medical school in India and training in England. He passed away in 1994.13

In 2005 Deshmukh received a Fulbright Scholarship to study in Delhi, the first time that she spent an extended amount of time there. She majored in English and Fine Arts at Amherst College, Massachusetts, and earned her MFA in painting at the Rhode Island School of Design in 2005. While she has not exhibited extensively, her work is displayed on the Internet and she has had several solo exhibitions and group shows.14

From 2006–2009, my works explored geo-social, political, and religious aspects of the globalized world with particular focus on India. They were made through the lens of the Sublime, a term often used to describe a quality of awe-inspiring greatness that transcends beauty to reach limits of fear and horror… I often focused on India because of my ancestral, religious, and emotionally truncated connection to her… So I reacted to how her harsh visual and social extremities reflect the dented pressure of emotion on reason, how she walks the line from “third world” emergency to emerging world power, from conservation to consumerism…. And I reacted to my own displacement as a beneficiary and victim of immigration.15

Although born in the United States, Deshmukh often alludes to feelings of displacement. On the micro level, dislodgment may allude to her personal experiences, and on a macro level to global and cosmological shifts. Crossing boundaries is not only an internal fact of Deshmukh’s life, but may also provide a template for many other categories that she ruptures in her creative practices, like, for instance, closely relating her writing to the visual images she creates.
Educated to utilize modern and postmodern art forms that may be described as “Western,” Deshmukh’s attachment to India and her knowledge about local and national events in the history of the subcontinent also inform her artistic vision. She communicates about profound issues that are not only particular to India, but to the world at large, in order to bring her artistic endeavors in line with the social and political matters of deep concern that are enabled by crossing multifarious boundaries.

Born in 1978, Devasher writes about her parental background:

With regard to my parents, my father was in the IAS or the Indian administrative Service and he studied history in college. He died when I was five so my sister and I were brought up by my mother and her parents, my grandparents, whom we lived with in Delhi. My mother, who is quite amazing, went to the same art college I did in Delhi, the college of art and studied graphic design. She worked as a designer for the Housing and Urban Development Corporation of India until her retirement last year.16

Devasher received a BFA in painting from the New Delhi-based College of Art in 2001, and an MFA in printmaking from the Winchester School of Art in the United Kingdom, in 2004. She has exhibited her works throughout India, the United Kingdom, and worldwide.17 Devasher’s cosmopolitan sensibility has been reinforced by her education in London and her experiences abroad, including her fellowship at the Max Planck Institute for the History of Science in Berlin. While many of the younger artists who practice in India highlight personal, social, and political issues in their work, Devasher’s art is more removed from specific references to India. She is primarily interested in the relations between art and science—math, genetics, botany, astronomy—which are linked in her lithographic prints, drawings, digital prints, and highly sophisticated video feedbacks to create supernatural forms that are ostensibly rooted in the natural world.

Over the past two years [2006–08] I have been exploring some ideas put forward in Goethe’s Botanical writings in which Goethe’s search for “that which was common to all plants without distinction” led him to evolve a purely mental concept of the archetypal plant. This archetype …resulted in what one writer has described as a “botanist’s nightmare” consisting of all known leaves and flowers combined around a single stem….What results are hybrid organics that float in a twilight world between imagined and observed reality…forms in constant flux, in a state of continuous transformation. They could be denizens of a science-fictional botanical garden, specimens in a bizarre cabinet of curiosity or portents of a distant future (italics added).18
This brief biography addresses some of the issues pertinent to the transcultural lives, which are identified by Homi Bhabha as transnationals who are situated in what he described as the in-between or the third space “neither here nor there.”¹⁹ This formulation may apply to Deshmukh whose family migrated to the United States. However, it may also apply to artists like Devasher who live and practice in other countries for extended periods of time. So many artists cross national boundaries in order to study, exhibit, and to dwell outside of their country of origin that being in Bhabha’s third space need not necessitate permanent immigration. Artists have always moved to other countries in order to study, particularly since the early twentieth century, but the rate of crossing borders has accelerated exponentially in the last decades. As well, artists today can easily encounter cross-cultural elements through globalization and the Internet.

It is in the emergence of the interstices—the overlap and displacement of domains of difference—that the intersubjective and collective experiences of nationness, community interest, or cultural value is negotiated. How are subjects formed “in-between,” or in excess of, the sum of the parts of difference.²⁰

**Systems and structures**

While science and technology have always played a part in the construction of artworks they have usually been hidden factors: engineering components in architecture and technical solutions in sculpture; knowledge of the chemical components of binders and colors in painting and printmaking, and more recently in the chemicals utilized in photography. In ancient art and particularly after the Renaissance, systems were intrinsic to creating new structures like perspective, and the grid system governed the formation of many works particularly in Minimalism and Conceptualism. In the art of Deshmukh and Devasher, systems are often foregrounded and often form the “meaning” of the work.

I use terms like “lens,” “map,” or “game” to explain a working process that defines the nature of each system, how processes relate to their artifacts; a “lens” may be a diagram providing instructions for a painting process or a tool for comprehension, while the painting embodies practice. A “map” may be a geographic space (metaphorical/imagined/real) within which a painting navigates a cultural, political, or natural phenomenon. A “game” may be a mechanism for outcomes, a roulette wheel of theoretical images that can’t escape from the laws of randomness.²¹
While the topics or themes examined in her works continue to evolve, the common thread in Deshmukh’s work is a system approach, where the system produces “outcomes” in the form of paintings, digital prints, interactive street installations, and in the science fiction stories she creates. In 2004 and 2005 when she was in graduate school and on a Fulbright to India she began to pair paintings and digital drawings using Illustrator (Deshmukh, 3/19/14). In the painting *Convergence of Still and Moving Objects*, Arisen, fish-like forms are spread out rhythmically on a horizontal canvas and change from opaque to transparent. The digital drawing *Convergence of Still and Moving Objects* exposes the system driving this painting by mapping all kinds of color exchanges on two overlapping circles. For the painting the artist blended the colors within the areas of these circles and painted these blends for time periods between 1 and 6 hours (Deshmukh, 3/16/14). In other paintings from 2005, small clusters of pyramidal shapes or open chains and webs that resemble structural models of molecules of matter float in vast spaces and conjure up deep seas in fury, the infinite cosmos, or deadly conflagrations. Deshmukh places an oil painting next to the depiction of the system driving its production as she does with *Subduction and Eruption: Falling Water* (fig. 1) and the digital drawing *Subduction and Eruption: Rising Earth* (fig. 2).^22^

*Fig. 1: Anjali Deshmukh, Subduction and Eruption: Falling Water, 2005, oil on canvas, 30" x 48".*
In the former work, ghostly forms as well as clusters of pyramidal forms inhabit the ocean depths. Research on the Internet suggested to Deshmukh shapes that refer to specific crystal structures. In the digital drawing a cone of color schematizes the formation of the earth from its fiery core through plates under the earth up to the oceans.

In its cosmic form Vadavanala, Vadavamukha, A’urva—Submarine fire—consumes the universe, transforming it into a great cosmic ocean. A universal ocean of fire is reflected in the story of Matsya and the earthly flooding oceans of water…Vadavanala was described as existing in the far southeast oceans. Now, we have the Pacific “ring of fire” stretching through Indonesia, Japan, the Aleutian Islands, California Coast, the Andes, the South Pole, creating a larger circle of flames out of the small endless columns of eruption…If I saw each tectonic plate as a transparent or semitransparent membrane, it is not so different from alveoli.

Alveoli are the membrane in the lungs that inflate and deflate. In the text accompanying the digital drawing, Deshmukh compares them to subduction of the tectonic plates and their effect to that of a quake on earth and water 100 miles away. In this rich set of textual and visual comparisons, Deshmukh unveils the complexity of her practices as she moves from painterly abstractions to mythological associations and finally to scientific data about...
the earth and the breathing human body, all the while making allusions to some of the deadliest of natural disasters as well as to aspects of industrialization and globalization.

Prior to the shift to interactive street installations in 2012, her paintings and digital drawings explored systems related to game theory. One of the prints, *Out of Bounds*, is a 79” x 57” digital drawing composed of kaleidoscopic shapes of color bordering a perspective stage upon which a dense ball of linear pattern and colored flecks swirl as an aftereffect of shattered stained glass. According to the artist, “the print is a depiction of a massive game board on which two players would manipulate the 4 elements of nature to create a model for Utopia, using game pieces made of glass. The symbol of Utopia in the game’s theory is the successful shaping of a perfect circle in the center of the board” (Deshmukh, 3/20/14).

With this print Deshmukh exhibited small paintings that were outcomes of the *Out of Bounds* “‘game’ or system—real and imagined landscapes” (Deshmukh, 3/22/14). The surfaces of some of the small paintings in the exhibition are thick and resemble lava flows or silted mud. One called 2050 is a canvas covered with what looks like black “tar” with a red-purple substance pushing through and ruts sculpted into the surface. The title may reference a site at one particular latitude or longitude, or a future catastrophic eruption resulting in a “sublime” crust. In all of these works, Deshmukh brings the formal structures of minimal abstraction together with expressive abstraction. However, rather than utilizing the brush mark that is the sign of the individual creator, she sculpts the paint to suggest geological forces at work.

Rohini Devasher also employs systems and structures that image the patterns, rhythms, and tensions that are inherent in organic growth in order to interrogate “the universal underlying structure within nature’s complexity. More recently, my practice has focused on trying to define the ambiguous space between science and art, imagined and observed reality.” As an example, *Hybrid I*, a digital print and drawing from 2007, is a bizarre amalgamation of eleven cactus-like, prickly organic plant forms that surround a pink and orange center exuding an outrageous sexuality: a vagina dentate in its thorny density (fig. 3).

Like the prints, although somewhat more decorative, the 2006 *Ghosts in the Machine*, a single channel projection,
processes of growth and evolution echoing neural networks, biological tissues, capillaries, plant structures, and embryonic forms, all of which were arrived at by pointing a DV camera at its own output, they are entirely self-generative ghosts within the machine.30

Watching the more recent video *Arboreal* (2011) is a mesmerizing and often eerie experience (fig. 4). From a sparse tree-like form filling only the center of a black space it metastasizes in 15 minutes to engulf the whole field with its incessant branching. It is x-ray-like with sections in gray and highlighted parts that eventually overwhelm any resemblance to “healthy” organic growth. To create the work Devasher positions a video camera in front of a television screen with two mirrors mounted at right angles. She

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*Fig. 3: Rohini Devasher, Hybrid I, 2007, color pencil, archival pigment print on Hahnemühle photo rag paper, 44” x 44”.*
selects elements from hours of video footage of slowly forming unpredictable patterns in order to create complex images that resemble fractals, osteocytes, phytoplankton, zooplankton, insects, and in this case, trees. This work began with an exploration of L-systems.

The Lindenmayer system, a formal grammar most famously used to model the growth processes of plant development, introduced and developed in 1968 by the Hungarian theoretical biologist and botanist Aristid Lindenmayer. L-System rules are recursive in nature which in turn leads to self-similarity and thereby fractal-like forms that mimic branching patterns in the natural world... Via a deeply intuitive process, the artist constructs a successive set of trees through the gradual manual layering of more than 700 individual layers of video... By gradually increasing the recursion level the form slowly “grows” and becomes more complex, engulfing the space.

Walking out into the natural world after watching this video several times is an experience fraught with anxieties. I did so in early winter and some trees were bare and others still shrouded in their dying leaves. The former seemed to be made of cold fractals that might replicate themselves at any moment, and the latter seemed to be expanding their dead leaves to blot out the sky. While nature is often depicted as awesome, beautiful, or at least benign, we have become increasingly subject to its devastating side; Devasher’s video suggests its more threatening possibilities.
Astronomy is a prime interest for Devasher and provides sources for some of her most compelling works. At the start of a short video Devasher appears standing in Jantar Mantar, an eighteenth-century astronomical observatory in Delhi, where she speaks about her study of astronomical observatories and other historical monuments of scientific observation. *Deep Time* is part of an ongoing project that looks to map common points between astronomy and art practice through the lens of metaphor. The works in the show, *Monographed Geographies*, *Parts Unknown*, *Surface Tracking*, and *Reading into the Stars* are explorations of strange terrains where myth and fiction blur the boundaries of what is real and imagined. Devasher’s most recent work in the project was exhibited in a solo exhibition *Deep Time* at Project 88, in Mumbai, which continued the work involving astronomical observatories. Her intention was “to map common points between astronomy and art practice, through the lens of metaphor” (Devasher, 3/26/14). This exhibition consisted of seven bodies of work all related to astronomical observatories and continued the work started in 2009. Among them was *Parts Unknown*, a seven-channel video of images taken at the Indian Astronomical Observatory at Hanle—one of the world’s highest sites for optical, infrared, and gamma-ray telescopes (fig. 5).

In each of the seven videos “new terrains and fictions were created through the layering of video with drawings and satellite images of the Earth” (Devasher, 3/26/14). In three large drawings *Monographed Geographies I, II, III* colored pencil is drawn on to an archival pigment print created through the layering of photographs with satellite images (fig. 6).
Surface Tracking is a set of small map drawings in color pencil and acrylic of aerial views of the thirty dishes in Giant Meterwave Radio Telescope Array outside the city of Pune, India: “Used by astronomers across the world, research at the facility includes determination of the epoch of galaxy formation in the universe, Pulsar research and the observation of different astronomical objects such as galaxies, supernovae, the sun and solar winds” (Devasher, 3/26/14). Surveyor is a series of sixteen print/drawings of color pencil on archival pigment print.

Set in the high latitude desert of Ladakh at an altitude of 14,500 feet, the Indian Astronomical Observatory (IAO) at Hanle is one of the world’s highest sites for optical, infrared and gamma-ray telescopes. The satellite images of the telescopes and their surrounding landscape captured with the aid of the open source software NASA WorldWind, overlaid with drawing transform these spaces into strangely mythic terrains (Devasher, 3/26/14).

In this exhibition Devasher produced a major body of work focused on the interstices between art and science, drawing and electronic printing, myth and reality, locality and universal expansion. The images created from various kinds of hybridization are akin to what she explored in the site-specific wall drawing Parts Unknown, which was created at the Max Planck Institute for the History of Science in Berlin. Constantly shifting between internal perceptions that are mapped onto external sites creates multivalent perspectives on a newly discovered world that only crossing boundaries
could generate. Her work emerges from a site that seems almost free of national, religious, or even particular cultural references; while these factors may emerge at some level of interpretation, her hybrid mixtures address profound global anxieties.

The sublime and global catastrophes

In many of her works Deshmukh alludes to some of the deadliest global disasters and to aspects of industrialization, colonialism, and globalization.

[Deshmukh] offers fresh interpretation of landscapes through the relationship between environmental science and geopolitics… [Her] series Conflict Salt Stories revolves around the artist’s textual description of a series of weapons that use salt crystals. Allusions to the Salt Satyagraha of 1930 in India and the African diamond trade provide a lens through which the paintings may be viewed…Weapon Legends: The Law of the State (2006), is a digitally printed work that contemplates the tragedies of the Vietnam War, in particular the use of Rainbow Herbicides by the US military in Southeast Asia.34

Deshmukh’s “abstract” paintings are filled with complex references and address global problems like climate change and border conflicts alongside Hindu mythology, which she employs as age-old metaphors for some of the same concerns. In certain works she utilizes the Indian subcontinent as a paradigm with examples like the Salt Satyagraha as both a local event and a global model.35 In the series of paintings, the Conflict Salt Stories from 2006–2007, the shaped canvases (most 5’ x 3½’) hang slightly from the wall, which may reference minimalist objects like those of Ellsworth Kelly. Unlike his pristine panels, however, hers are lushly painted in gorgeous colors. Devoid of human presence, they sometimes refer to man-made catastrophic events that poison the earth, air, and oceans. Conflict Salt Stories: Oil Through a Prism on the Arabian Sea is replete with red, yellow, blue, and green oil paint, colors that resemble the light shining on the surface slick after an oil spill. In many of her paintings rich rainbow colors are the visual skin that ironically shroud the horrors beneath. This is the nature of the sublime that Deshmukh speaks about as a crucial center of her work: the aesthetic beauty of paint itself becomes a vehicle for portraying the effects of horrendous catastrophes. The digital print of 2006, Weapons Legends: The Law of the State, (almost 5’ x 5’) is the legend or coding system underlying the Conflict Salt Stories series (fig. 7).
It plots hundreds of natural and man-made weapons including vomiting, pulmonary, and nerve agents, lachrymatories, missiles, herbicides, incendiaries, and the poisonous agents used in the Vietnam War. This weapon glossary appropriates the color coding system of the original “Rainbow Agents”—including the most notorious, Agent Orange—used during the Vietnam War and the manner in which they are inflicted on the world’s populations (Deshmukh, 3/16/14).

This information is presented through the pristine beauty of the transparent elliptical shape that seems to rotate on the circular base. “Each weapon family (e.g., nerve agents) is assigned a shape, and each individual weapon (e.g., sarin gas) is assigned a unique color. This chart acts as a ‘decoder’ suggesting

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*Fig. 7: Anjali Deshmukh, Weapons Legends: The Law of the State, 2006–2007, digital print, 62.5” x 62.5”.*
that the abstract floating shapes in the paintings of the *Conflict Salt* series symbolize specific weapons” (Deshmukh, 3/16/14). On the Xerox page of the packet of her works and writing cited in note 15, the print *Weapons Legends* is reproduced in the center of a page surrounded by a short story: it is a fiction, not a description that illuminates the image. “It’s [a cloud seeder] a carrier of things already. Rain, colonialism, resistance. And [c]hemicals, rainbow agents—they’ve already been used.” The print and story are almost segues into the *Conflict Salt Stories* series discussed above. As a science fiction writer, Deshmukh contends that like science, “Race, nation, gender can be jettisoned and re-imagined in science fiction, while science provides a common language for the reality in which we live” (Deshmukh, 3/20/14).

If Deshmukh focuses on the external effects of humankind’s abuse of nature, Devasher presents images of the internal, biological consequences of experimentation and mutation on organic and human life. These may be the effects of technological and chemical usage in conflagrations and rapid industrialization. In Devasher’s mixed media, large wall drawings that are extended versions of her prints and videos, such interpretive meanings are particularly applicable. In the *Wall Drawing* of 2004 (8’ x 14’), for instance, the center “pod” swells with a fertility that throws off swirling strands that almost begin to engulf their generator (fig. 8).

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**Fig. 8:** Rohini Devasher, *Wall Drawing I “Seed,”* 2004, charcoal, acrylic, dry pastel, oil pastel on constructed wall, 8’ x 15’, Winchester School of Art, UK.
The mixed media drawing *Untitled* from 2008 (8’ x 16’) — in four parts on plywood — is composed of a creature with a dense center of eye-like shapes. Tentacles migrate from drawn lines to material extensions that cast shadow onto the surface. This monstrous beast is a creature of the sublime, magnificent as a possible “natural” organism, and grotesque, as in *Arboreal*: a mutant of organic processes gone awry. It is not far-fetched to view this organism as a visual metaphor for human “mutation.” *Bloodlines* of 2009 (fig. 9) is “a video and print installation consisting of a 45-minute-long single channel video projected in loop alongside a large digital print of the entire genealogy of parent organisms become superimposed in the video to produce a variety of offspring.”

![Fig. 9: Rohini Devasher, Bloodlines, 2009, video and print installation, single channel video projected onto fabric: duration 45 mins, Print: 60" x 60" on Hahnemuhle Fine Art Baryta paper.](image-url)
Devasher describes it as:

A warehouse full of impossible monsters…. an idea put forward by the evolutionary biologist, Richard Dawkins in his book “The Blind Watchmaker.” Bloodlines’ introduces us to a family tree where each “parent” breeds a set of progeny, which in turn produce offspring of their own.37

Impossible monsters—in this case two dragonflies “drawn” with video feedback—is the visual impact of Doppelganger I and II of 2011. In 7-minute two-channel videos on a tablet-sized LCD screen, hybrid forms are constructed to begin a new taxonomic structure. The two videos are related yet distinct: Doppelganger I charts a slow process of evolution gaining in complexity. Doppelganger II explores the idea of invariant pattern linking variable detail, i.e. some elements such as the dragonfly’s thorax remain constant…Both dragonflies go through nine transitions where in one case the form increases in complexity, while the other changes, sometimes subtly, sometimes drastically but always with the same structures in place.38

In Bloodlines and Doppelganger perception of the stages of metamorphosis produces a mesmerizing and persuasive sense of a “reality” in the light of a purely digital event. While aesthetically compelling, the ramifications of these transformations in nature are horrific in relation to the uncontrollable transmutations that may occur.

Fig. 10: Anjali Deshmukh, Tell me a Story of a Lifetime, 2012, participatory installation, mixed media, 70” x 85”.
Interactive real life events

Works of interactivity in the arts have been theorized as part of the evolutionary art historical narrative of late modernism—happenings, performances, political or social street actions—or as the supposed anti-object conceptual direction of postmodern practices. Another and more recent direction roots interactive art in both religious and secular rituals and in popular celebrations that are ancient in origin. The Situationist International, active in the late 1960s to early 1980s, provides yet another approach. Stemming from a revised Marxism, Guy Debord attacked the commoditized products of late capitalism in the *Society of the Spectacle* and promoted art practices that celebrated the union of art and life, often in radical acts.39

It is perhaps in relation to rituals stemming from her interests in Hinduism and certainly from a desire to bring art and life together that Anjali Deshmukh’s practices shifted in 2012 when she asked audiences to participate in shaping the outcomes from the systems she creates. In a complex and aesthetically affecting wall installation, *Tell Me the Story of a Lifetime* (2012), Deshmukh continued in three dimensions what she calls a foil to *Out of Bounds* (fig. 10).

From the plotting of utopias in *Metaterraform Game* to the emotional responses to the real that explores self or life creation in *Tell Me the Story*, reason falters before cosmic forces and fantasies about the way the world works. Deshmukh, created a magnetized game board on the wall. Written across the game board were 289 experiences—what she calls events. These events include statements about family, illness, death, experiences of nature and more. Game pieces representing 900 emotions were scattered across the board. Audiences were asked to pick numbers randomly combining events and emotions. From these random pairings, the artist created short stories shaped by the audience (Deshmukh, 2/20/14).

Extending what was explored in *Tell Me a Story*, in 2013 Deshmukh created *Random Fortune Generator 1* as part of a group show put together by The South Asian’s Women’s Creative Collective for the Dumbo Art Festival in New York (fig. 11).

Taking place in the urban environment of city streets this participatory art installation and game board converted *Tell Me the Story of a Lifetime* into a game that hundreds of participants could play simultaneously.

I was no longer a creator of outcomes—the audience was. Instead of being on a wall, I designed a game board on a stretch of road made of cobblestones. I coded and sub-coded over 1,100 events by color,
into an evolving taxonomy that includes internal (psychological and philosophical), physiological (negative, positive, neutral), social (by degree of closeness) and solitary sensory (natural and artificial) experiences. Players didn’t know this unless they asked me, but it structured the color (Deshmukh, 3/20/14).

While there were multiple games occurring on the board, the Micro-Fiction Game resonated deeply with the participants. In this game, each person picked up a penny labeled with a number that represented one of 900 emotions. They did not know yet which emotion they had picked. They put their penny on an event on the game board and then discovered the emotion they selected. Then the player met with Deshmukh or a trained “Game interpreter” to help them shape a story—a “micro-fiction piece” that combined their event and emotion. The participant’s micro-fiction pieces were often powerful, creative reflections on their existences and psychological states. The games are all built around compassionately exploring and “testing” hypotheses about human interaction and behavior, and the outcomes and observations of those interactions are used to shape the design and concepts underlying the work. The scientific feedback loop becomes a tool for a creative process for both [the artist] and the participants. The games are all built around compassionately exploring and “testing” hypotheses about human interaction and behavior, and the outcomes and observations of those interactions are used to shape the design
and concepts underlying the work. The scientific feedback loop becomes a tool for a creative process for both [the artist] and the participants (Deshmukh, 3/20/14).40

It is perhaps the same blend, though executed in a different manner, which underscores Rohini Devasher’s performative and interactive rituals. “Beginning in July 2009 and through 2010, I traveled back and forth across the country with different individuals to witness a specific stellar event or visit a particular astronomical site. From Patna for the longest total solar eclipse, Varkala for the Annular Eclipse, I traveled to some of the most hallowed sites of India astronomy.”41 The work produced from these travels, We Are Starstuff, “is a chronicle of people whose lives have been transformed by what they see in the sky” (fig. 12).

Fig. 12: Rohini Devasher, We are Starstuff, installation at SARAI, CSDS, New Delhi, 2 audio vignettes, duration 11 mins, 10 mats, 10 MP3 players.
In the garden of the Sarai residency, visitors lay on foam mats placed in a circle with small MP3 players and listened to audio pieces of edited interviews made with twenty amateur astronomers in Delhi. “As few as one, as many as ten people lying down together gazing up at the sky, mimicking the act of amateur astronomers [the] world over, and like them linked by common experience, in this case of the audio files, of the experience of this ‘collective rest or sleep.’”

In this interactivity Devasher crosses the boundaries between art and science by creating an event that could be enacted anywhere across the globe. It is a transcultural life activity whose ramifications include stimulating collective consciousness about the wonders of nature and perhaps also hastening a call for its protection.

Conclusion

This article was made possible by Internet viewing. Just as Deshmukh and Devasher have utilized that technology for research and to create artworks, Internet viewers like myself are enabled by this amazing technology. Wherever electronic devices are available a viewer is able to conjure up transcultural images and text that are free from institutional constraints and can be posted by anyone from anywhere. Acknowledging the caveats that are and will be raised to confront this optimistic portrayal, at this moment the crossing of boundaries that this technology promotes is astonishing. I take issue with Boris Groys’s argument that, based on Walter Benjamin’s *Art in the Age of Mechanical Reproduction* concerning the copy and the original, the art created by this technology needs to enter the museum in order for the copy to become the original.

As I sit before my computer the virtual world is at my fingertips and each instance of the original is available to me and to anyone else who wants to access it. Deshmukh and Devasher are among many artists worldwide who are creating new forms that may eventually necessitate a new system, the ramifications of which are not yet fully apparent. One such is a form of viewing enabled by digital technology that allows the viewer as much time as needed to explore the various components of artists’ works in all their complexities. This occurs without the restrictions of museum or gallery viewing, which are often constrained by time and by the particularities of the space.

There is no better way to conclude this essay than through a discussion of the crossing of boundaries between word and image in Anjali Deshmukh’s superb oil painting *Metaterraform Game*, which is derived from a glass marble (fig. 13)

Another outcome of the *Out of Bounds* game or system previously mentioned, the work is a visual feast of abstract color swirls like those created by a marble held up to light. If one were to fracture the glass it would form diamond slivers in perfect geometry like those that Deshmukh has painted on the right side as
a contrast to the explosion of color on the left. However, the contrast is not a real one but rather a visualization of “seeing” from different perspectives. Deshmukh writes about this work:

If we think of the glass as the kind of “raw material” for the game, for the search for perfection or utopia in the symbolic shape of a circle, there’s [sic] layers of sad irony given that the marble is a circle itself. This is in some way the contradiction of perspective, that the further we step beyond the boundaries defined by our interpretation of reality, the more our understanding of reality and morality is turned on its head, the serpent eating its tail... Do we destroy the perfect form from our lack of awareness of its existence/where is the line between discovering and creating? The image is also influenced by thinking about a bird’s eye view of the Pacific trash gyre.44
Notes


2. While developing this article, I corresponded via email with the two artists. I have indicated the date of our correspondence after each instance where they have added and elaborated on material. I have copyright permission for all quoted text.

3. In this discussion I exclude many artists whose prime medium is electronic/digital in order to concentrate on artists who cross boundaries between material art practices and science/technology. An excellent exhibition addressing the trend I am discussing here is *Intimate Science*, which originated at the Miller Gallery at Carnegie Mellon University in 2012 and toured through 2013, http://millergallery.cfa.cmu.edu/exhibitions/intimatescience/ [Accessed on 6. June 2013]. While science and technology have always played a part in art-making, this article explores how the pervasiveness of contemporary technology and science has engendered new categories of art-making.

4. Nicolas Bourriaud, *Relational Aesthetics* (Dijon: Les presse du Réel, France, 1998), 13. In contrast, an interesting defense of collecting institutions, like the modern museum, is central to Borys Groys, *Art Power* (Cambridge: The MIT Press, 2008), Kindle edition. Groys suggests that it is only within the context of a museum that new forms of art can be defined as art; that is, by being contrasted with what is already collected in the museum. This view may be critiqued as a defense of the museum’s power to decide what is art at any given time.


6. However, it remains to be seen whether or not that mode of experiencing artworks will eventually be co-opted, as Groys suggests, by their necessary museumification.


8. I am indebted to the works of Homi Bhabha whose writings—though contested—on the space “in-between” and on the third space of immigration and transnationalism informs my work greatly. See in particular *The Location of Culture* (London: Routledge, 1994). I am also indebted to Arjun Appadurai’s works on the “sociology of culture” in the light of globalization. See Arjun Appadurai, *Modernity at Large: Cultural Dimensions of Globalization* (Minneapolis: University of Minnesota Press, 1996).

9. As this is not a critique of their practices, I hope that use of their work as examples of my thesis is sufficiently fleshed out through encounters with their work on the Internet. I want to thank both artists for interacting with me via that medium and for sending excellent electronic images of their work. I have frequently used their words as the best entrée into their creative practices. As a result, I have included them as collaborators in this article.

11. Stephen Wilson, *Art and Science* (New York: Thames and Hudson, 2010), 9. This text is important as it introduces many artists from all over the world who work in the interstices between art, science, and technology.

12. The complexities governing how globalization and cosmopolitanism are identified are topics of contestation, particularly how they function in the realms of political, social, economic, and cultural life. I am using the terms here in the broadest sense, as a discussion of the intricacies of the question is beyond the scope of this article.


14. The first solo exhibition was *Agent Green of the Acacia Tortilis and Other Weapons* in Delhi at the Habitat Center in 2006, and the second *Where You Want to Be* was held at the Higher Bridges Gallery in Fermanagh, Ireland in 2009. Her work has also been included in a number of group exhibitions: the 8th annual IAAC Erasing Borders exhibition curated by Vijay Kumar in 2011, which traveled from the Queens Museum of Art in New York to several venues (the Charles B. Wang Center, at Stony Brook University, New York; the Alcon Gallery, New York City; and the Jørgensen Gallery, University of Connecticut, Storrs); *Radiate* at the Windsor Art Center in Windsor, Connecticut curated by Kathryn Meyers in 2012; she was one of four artists included in the exhibition *Grain* at Renu Modi’s Galerie Espace, New Delhi, 2013; she also participated in the Dumbo Arts Festival held in New York in 2013 and again in 2014.

15. This quote is taken from a disc and a Xerox packet of words and images sent to me in November 2009. It can be found on pages 3 and 4. The quote was revised by Deshmukh in an email received March, 2014. I want to thank Kathryn Myers for introducing me to Deshmukh’s exciting work.


17. Some of the group shows in which she has exhibited were at the Kiran Nadar Museum; the Institut d’art contemporain, Villeurbanne/Rhône-Alpes; the Zacheta National Gallery of Art, in Warsaw; the Apeejay Media Gallery and Vadehra Art Gallery in Delhi; the Frieze Art Fair, Regents Park London, 2011; Green Cardamom and the British Library in London; Bose Pacia in Kolkata; the Royal Scottish Academy in Edinburgh. Her first solo show *Breed* was held at Project 88 in Mumbai in 2009 followed by her second solo *Permutation* with Nature Morte, New Delhi. A recent project was shown at the Kochi Muziris Biennale 2012, Kochi India. Devasher was the recipient of the Forbes Contemporary Artist of the Year Award 2014, the Skoda Breakthrough Artist Award 2013 and the Sarai Associate Fellowship 2010 and INLAKS Fine Art Award 2007 and 2008. She was most recently an artist in residence at Metal Culture in the UK, 2013 and at the Max Planck Institute for the History of Science in Berlin between March and June 2012. She was part of the Kochi Muziris Biennale (with her work *Parts Unknown*) and has shown her work at the IZIKO Museum, Cape Town, South Africa, The Wanas Foundation, Sweden, Courtauld Institute of Art, KHOJLIVE12; her most recent exhibition was in 2014 at Project 88 in Mumbai, India.


20. Bhabha, *The Location of Culture*, 2. Bhabha’s positing of the third space is highly controversial. Ien Ang in “Introduction: Commodities and the Politics of Value,” *The Social Life of Things: Commodities in Cultural Perspectives* (Cambridge: Cambridge University Press, 1986), 7 discusses the limits to Bhabha’s theories about “double consciousness” or biculturality or the in-between and the third space. She suggests that transnational practices do not occur in an empty space that constitutes the dichotomy of “where you are from and where you are at,” but that this space is filled with new forms produced at the site of collision/collusion that produces a creative syncretism. See Luis Eduardo Guarnizo and Michael Peter Smith, “The Locations of Transnationalism,” in *Transnationalism from Below*, eds. Michael Peter Smith and Luis Eduardo Guarnizo, *Comparative Urban and Community Research* 6 (New Brunswick: Transaction Publishers, 1998), 6. “Transnational practices do not take place in an imaginary ‘third space’ (Bhabha 1990; Soja 1996) abstractly located ‘in-between’ national territories. Thus, the image of transnational migrants as deterritorialized, free-floating people represented by the now popular academic adage ‘neither here nor there’ deserves closer scrutiny […]. Transnational practices, while connecting collectivities located in more than one national territory, are embodied in specific social relations established between specific people, situated in unequivocal localities, at historically determined times.” While these critiques are apt, it was nonetheless Bhabha’s formulation of transnational status that provided profound grist for the mill.

21. This quote is from “Statement and Info” on Deshmukh’s website, http://www.anjalideshmukh.com [Accessed on 10 October 2013].


23. Deshmukh adds “the crystal structures are associated with igneous (volcanic) rock-amphibole, olivine, proxene, mica, and others.” Additional comments made on March 20, 2014.

24. The text is on page 16 in the packet noted in 15.

25. The earthquake in Chile in February 2010 set off tsunamises along the Pacific Coast all over the world, but it did not produce the same scale of waves elsewhere as those affecting Chile itself.

26. Deshmukh showed these paintings and digital prints in the Higher Bridges Gallery, Fermanagh, Ireland, 2009.

27. Deshmukh describes the small painted landscapes as based on “aerial imagery from around the globe using Google Earth and they refer to specific longitudes and latitudes for most of the landscapes—whether real or imagined, or of the future. Hence the longitude/latitude numbers of some of the titles.” (Quotation from additional comments made March 22, 2014).


29. For images of these and other works through 2007 see “Rohini Devasher’s photostream.” *Flickr from Yahoo*, http://www.flickr.com/photos/rohinidevasher/ [Accessed on 08. April 2014].


33. In a 20-print series also labeled *Arboreal*, each 20” x 24” print is created by “the layering of selected still frames of video focuses on a different kind of ‘tree’—each one the possible source of generating a sequencing video on its own.” From a pdf file Devasher sent, of the exhibition *Permutation* at Nature Morte in New Delhi in 2011, Figs. 10, 11.


35. The Salt Satyagraha started on March 12, 1930 and was the first nonviolent organized opposition led by Gandhi to protest the tax on salt imposed by the British colonizers.


38. Devasher, *Permutation*. Emailed to the author. See also Sareen, “Rohini Devasher.”


40. A second work, *Random [Fortune] Generator 2* was shown in 2014 at the Brooklyn Museum, which invited the South Asian Women’s Creative Collective to present the exhibition again.


A significant part of this research was undertaken under the Sarai Associate Fellowship of the “City as Studio” initiative of the Sarai Programme at CSDS, Delhi between February–November 2010.


44. The quote was taken from material Deshmukh emailed to the author on December 1, 2010. The gyre of garbage is a trash patch in the North Pacific Ocean whose size can only be estimated but which may be as large as the United States.
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