

Duan Zhengqu
Paintings

Two Brushes:
China Documentary Opens Eyes and Ideas

Tom Gribble
Poetry

The Chemistry of Love:
In Search of the Elusive Human Pheromones
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Duan Zhengqu

Paintings





Boatman of the Yellow River No. 5
Oil on Canvas



Mirror No. 2
Oil on Canvas



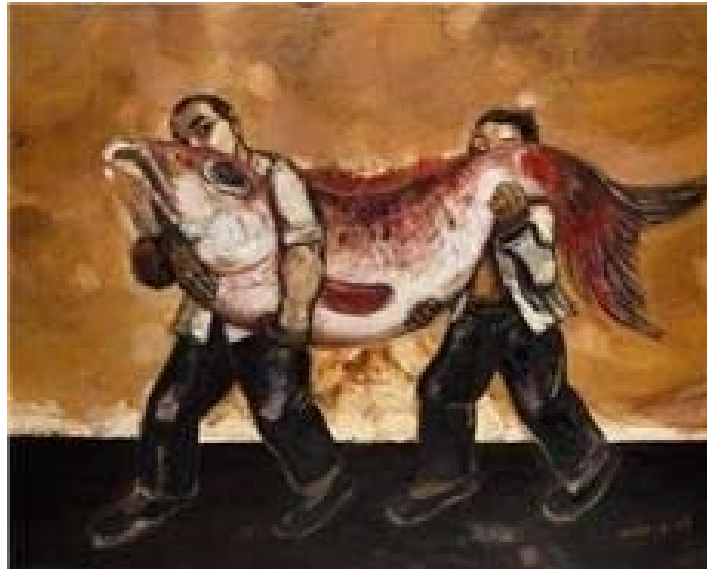
Boatman of the Yellow River
Oil on Canvas



Fishing boat
Oil on Canvas



Carp
Oil on Canvas



Da Huang He
Oil on Canvas



Big fish No. 3
Oil on Canvas

Images pp 3-10 courtesy of Yang Gallery, Singapore and Duan Zhengqu

Duan Zhengqu

1958

Born in Yanshi, Henan Province

1979

Graduated from the Guangzhou Art Academy

Selected Exhibitions

2009

The proceeding of Painting-Chinese Expressionism Oil Painting Exhibition of 8 Artists - National Art Museum of China - NAMOC, Beijing

2008

Comme des bêtes. Ours, chat, cochon & Cie - Musée cantonal des Beaux-Arts, Lausanne

2005

The Second Beijing International Art Biennale 2005 - Beijing International Art Biennale, Beijing

2003

shan shui - Aura Gallery - Shanghai, Shanghai

2002

Pintura Contemporánea China - MAC Museo de Arte Contemporáneo. Universidad de Chile, Santiago

2001

Initial Image - Yibo Gallery, Shanghai

1999

Won the Bronze Prize at 'The 9th National Artworks Exhibition'

1998

'Advancing to the New Century-an Oil Painting Exhibition of Young Artists'

1995

'Exhibition of Invited Artists', Nanjing

1994

'Biennial Exhibition of Teachers in the Department of Oil Painting' at the Guangzhou Art Academy
'The 8th National Art Exhibition', where his exhibit won the first prize

1993

Group exhibition at the Central Gallery of the Beijing Art Academy
'The 2nd Annual Exhibition of Chinese Canvases'

1991

Joint exhibition of Duan Zhenqu and Duan Jianwei at the Central Gallery Art Academy
'Going to the West' won the Gold Prize at 'The First Annual Exhibition of Chinese Paintings'

1987

'Song Sung by People in Mountainous Areas' participated in 'The First Chinese Painting Exhibition'

His artworks are collected by the China Art Gallery, Fukuoka Art Gallery, Hong Kong University Art Museum and collectors in Japan, Taiwan, Hong Kong, the United States and China.

Two Brushes: China Documentary Opens Eyes and Ideas

Chera Kee and Helen Stone produce an award-winning documentary on art in contemporary China.

What began as a summer documentary seminar in 2006 produced not only two successful student exchanges between Beijing and Los Angeles, but also a prize-winning film that gives viewers a unique cinematic glimpse of what happens both in front of and behind the lens when East meets West.

Two Brushes, an 8-minute short by School of Cinematic Arts (SCA) Critical Studies Ph.D. candidate Chera Kee and her Communications University of China (CUC) counterpart Helen Stone, landed “most promising award” in Future Vision – the Asian International Youth Film Festival, as well as nabbed a nomination in the 9th Sichuan TV Festival International Gold Panda Awards for Documentary.

“The collaboration between the students, letting them make real connections and understand on a deeper level what the cultural differences are between them was more important than the films that were made,” said University Professor and Professor of Critical Studies Marsha Kinder. “To have this kind of reception and accolade is really great,” she added.

The SCA/CUC joint venture traces its roots back to 2006, when Kinder and Distinguished Professor of Film and TV Production Mark Harris were invited to Beijing to speak at a forum on documentary films.

The project paired six Chinese film students one-on-one with USC counterparts in Animation, Critical Studies, and Production to produce six short documentaries on the Chinese community in Los Angeles in the summer of 2006. In June of 2007, the partnership between the two



USC's Chera Kee (l) and CUC's Helen Stone in Beijing

schools continued with a different group of SCA students traveling to Beijing where they joined with new Chinese collaborators to produce another series of six videos.

“I never expected anything to come of this,” said Kee who worked with Stone this summer to write, direct, edit and produce the documentary Two Brushes. “We were both so passionate about what we were filming and in the

end, our strong will and finding a middle ground served us well.”

Following the Chinese painter Duan Zhengqu who works in western style oil painting but uses very traditional Chinese subjects, Two Brushes examines the artist’s life and story. Although Zhengqu sees himself as a peasant, he is constantly surrounded by an entourage and lives in a multi million-dollar residence in Beijing. While Stone wanted to focus on the painter’s peasant aspect, Kee was more interested in Duan as an urban cosmopolitan. The finished film follows the two women as they argue on Two Brushes direction and the breakdown of communication between the two documentarians.

In addition to coming to terms with her collaborator, Kee found challenges on several other levels. By no means a stranger to the Middle Kingdom, (Kee has a masters in Chinese Studies from Harvard and is fluent in Mandarin) she still found Duan’s dialect difficult to understand. Kee also had to rethink some basic filmmaking logistics, such as transporting equipment from location to location.

“I don’t take things for granted at all anymore,” Kee said. “In Los Angeles I have the wherewithal to get around and just jump in my car. That was definitely not the case in China.”

Two Brushes landed “most promising award” in Future Vision – the Asian International Youth Film Festival.

Through the team’s nearly constant 14-hour shooting days, whether it was on a train or stopping in the middle of the street, Kee says filming Two Brushes was very much like “guerilla filmmaking.” On the plus side, she found a lot of the red-tape she encountered making films in Los Angeles was not such a big problem on this film. In China “there seemed to be a sense of ease” to getting what was needed, Kee said.

“What’s great about this film and all the other documentaries the students made is that just because you may know English, it doesn’t mean you and your partner are both speaking the same language,” noted Kinder. “It’s all about that process of trying to figure out what works between you and your counterpart.”

With the exchange between the two schools lasting only six weeks, pre-production for each film was limited to just a few days.

“That’s not a lot of time, especially for a film that has to be translated,” Kee said, noting that in addition to English the film required a Mandarin translation for Duan’s dialect.

Looking back on her experience, Kee cherishes the friendships she made with not only her Chinese colleagues but also with her fellow SCA filmmakers from animation, production and critical studies.

As for the entire program, Kinder couldn’t be more pleased and says that plans are in the works for a third session at USC.

And with the unexpected accolades for Two Brushes adding to her already phenomenal experience, Kee is proud of the work she and her partner have accomplished.

“I hope it plants the seed that a documentary doesn’t need to be just

one type of film,” she reflected. “This film can open anyone’s eyes on how the possibilities are limitless.”

Tom Gribble Poetry

The Empress and Four Threes

The King of Hearts looked as though he might construct a spaceship on the spot
Players read every queen's ash-white face for any sort of come-on
Orchestral ukuleles performed Mendelssohn's violin concerto in E minor, "I call"
A full-house reminded one man of a moon above a burning barn
The five of Club's one corner glistened like it was moistened by a tongue
Jack of Diamonds gave over the burden of his soul to a pair of deuces

A Discredited Landscape of a Books 50% off Sale

Melancholy was something she clung to like dew that dangled from a glass ledge
To the checkout clerk, two out of five women lived on the red-edge of a scream
She grew tired of reading "Tongues of flames" describing close calls with passion
"Once loved" was the nail that held Saint John and Anna Nicole in place
People rode destinies, things ran courses, and love sank into the membrane of ordinary
Latin cousins smuggled her from chapter to chapter while they kissed her feet
Under a yellow light meant to emulate home, an author hung daffodils in her mind
She thought of calling it quits, but by then, every love affair had been gutted
A woman pushed her baby's pink stroller closer to Melville...closer than planned
In the bookstore's biotic metronome, lemon-scented babies cried into the open air

Older Than Persians

An archeologist dug deep for the address of any woman with indigo eyeliner, "Eureka"
Love's ugly day: a shard of moon cut lovers' cheeks and fists of roses punched green eyes
A gnat in the shape of a tiger ate a man who waited for a bus to the Portland Zoo
A song hypnotized and that old darkness, love, shoved a blade between her ribs
Mermaids hated to swim with eels; they were slippery bastards and cocky too
After she'd taken her cold heart to Mesopotamia, his blue hands lost their golden-touch

Darkness Took Shape behind Her and in the Mirror's Repeated Self

She expected to find her entire life in her palm's narrative. "Madame Rosette to read"
The world began behind Saturn, and a horseman rode through a winter that happened again
"Purple, I believe, is what birds carried under their sunset wings"
Stars cast shadows on meadows born before the first fortune was needed
Snow fell on the stones that could get no colder nestled in their empty oceans
They lit another bush for more orders, but freaks warmed their hands and took the moment
A lady immersed in want caused a twelve car pile-up and the second death of Jesus

The Chemistry of Love: In Search of the Elusive Human Pheromones

Chemical messages wafting off other people's bodies clearly influence sexual attraction and mating behavior in humans. Just don't call them pheromones - yet.

This year, science marks the 50th anniversary of the discovery of pheromones, the sexed-up secretions that can set off a mating frenzy in myriad species, from moths to mammals. But for all the recent attention focused on these "love chemicals" by researchers and the media, what's often lost on the public (and in the hype of marketing claims from some fragrance makers) is that no one has yet proven that pheromones exist in humans.

That fact was underscored recently by pioneering pheromone researcher Tristram D. Wyatt, Ph.D., who wrote in a January 2009 commentary in *Nature*¹: "So far, no [human] pheromones have been conclusively identified, despite stories in the popular press."

There's no question that *something* – some kind of chemical signaling that is picked up, consciously or non-consciously, by our sense of smell – influences one person's reaction to another person. It's also clear that species across the animal kingdom use a wide array of pheromones to communicate with one another for mating purposes and many other behaviors (ants use pheromones to mark trails, for example). There are solid clues that the same sort of chemical signals do indeed influence human reproductive physiology and behavior, although in decidedly more subtle ways than in animals. But the debate is not settled over whether these mysterious chemical cues can be called "pheromones."

"There is a lot of scientific evidence that multiple species clearly have olfactory messengers that are involved in mating behaviors. Where it falls short is in humans," says John G. Hildebrand, Ph.D., a University of Arizona neuroscientist who studies pheromones in insects. "There is no evidence yet that stands up to scientific scrutiny, in my

opinion, to show that any factor or substance that people have isolated, marketed, or claimed to have 'pheromone activity' really does in humans."

Lifting the Pall of Pseudoscience

But, he adds wryly: "That hasn't stopped people from selling what they call 'human pheromones.'" In fact, dozens of companies are peddling products supposedly laced with "human pheromones." A Google search of the term brings up a swath of them, complete with scientifically dubious – or just plain outrageous – claims of powerful effects on the opposite sex. Such practices have, by some accounts, cast a pall of pseudoscience over the field of human pheromone research, which has frustrated serious scientists.

That pall may be lifting as rigorous scientific evidence grows that humans do indeed respond physiologically and behaviorally to a broad repertoire of chemical signals – what might be called pheromones in any other species. (Wyatt prefers to call them "signature odors." Other researchers use "putative" when referring to human pheromones, which essentially means: "we think that's what they are but we can't say that yet because the data is inconclusive.")

Hildebrand, a member of the Dana Alliance for Brain Initiatives, is among those in the field who fully expect that "eventually, concrete evidence will be found that there is an olfactory component to human attraction and consummation of mating, because it's true in so many other species, including mammals." He points to "tantalizing tidbits that have been known for a long time." Top among them is landmark research by University of Chicago psychologist Martha McClintock, Ph.D., showing how the menstrual cycles of women living in close proximity tend to synchronize, along with other data showing that women's olfactory acuity varies depending on where they are in their ovarian cycle. "These are strong suggestions that something is going on that is linking olfaction with reproductive function," says Hildebrand.

The problem is that no one has yet identified the molecular compound at the root of these reported effects. It may only be a

matter of time. As Wyatt pointed out in his *Nature* essay: “As we’re mammals, we are likely to use pheromones.” Why, then, after a half-century of study into pheromones, has their role in humans not been better clarified?

Human Love Is...Uh, Complicated

The simple answer is that humans are more complicated than other species, particularly when it comes to love and sexual attraction. For one thing, we clearly use more than our nose to sniff out Mr. or Ms. Right. Unlike mice and many other animals, in which up to a third of the brain is involved in processing odorants, primates’ brains are more oriented to visual perception than to olfactory cues.

As humans, we also think. The neocortex, the “higher-thinking” part of the brain that evolved most recently and sets us apart from most other species, exerts a measure of control over more primal, innate impulses. (Though these control brakes clearly fail at times, as anyone who has experienced irrational lust that is later regretted knows.) The very cognitive abilities that make us different – attention, alertness, expectation, and learning from previous experience, for example – modulate our response to any signals wafting our way, making it difficult to sort out the role of those signals.

The chemical signals themselves are more complex in humans, a fact evident by the failure to identify and characterize a single human pheromone, despite significant efforts to do so. There are hundreds – maybe thousands – of candidates, and they interact in complex ways. Even in insects, where pheromone-based communications are well characterized, it’s rare to find a single substance that has a clear pheromonal effect by itself. A clear lesson from five decades of pheromone research in other species is that, as Hildebrand puts it: “The message is in the mixture, not in any one individual compound.”

Moreover, different pheromones work in different ways. The best-known pheromones, like the sex attractants that can lure moths to a mate from great distances, are “releaser” pheromones – they have an instantaneous effect on behavior and fit the classic definition of pheromones. But much less understood are so-called “primer”

pheromones. Instead of triggering an immediate behavior, these compounds “prime the organism with changes in physiology so that the organism subsequently responds differently to certain stimuli,” says Hildebrand. Chemical cues that affect human reproductive behavior “could well act as a primer and not as a releaser,” he says, making them harder to nail down.

One Scent Does Not Fit All

Even if – or when – researchers are able to prove beyond a shadow of doubt that they’ve pinpointed a human pheromone, any such compound is almost certain to have different effects in different people. There’s strong evidence that the exact same chemical odorant can elicit opposite sensations, giving one person the warm-fuzzies and another the willies.

One possible explanation is the well-documented tendency of animals and humans to prefer odors from genetically dissimilar individuals, which has been shown by McClintock’s group at the University of Chicago, by researchers at the Monell Chemical Senses Center in Philadelphia, and various other research teams. Taken as a whole, the evidence suggests strongly that women, in particular, can detect even subtle differences in gene variants that code for immune-system molecules known as major histocompatibility complex, or MHC. Such results make sense from an evolutionary standpoint, since selecting a mate that is not too similar genetically is advantageous.

“People who have different genetics, including MHC genes, are likely to produce different kinds of scents,” says Duke University neurobiologist Hiroaki Matsunami, Ph.D. “So, maybe by smelling, we are actually sniffing how genetically different the other person is compared to ourselves.”

Matsunami’s laboratory, in collaboration with Leslie Vosshall, Ph.D., at The Rockefeller University, has recently uncovered more compelling evidence that genetic make-up plays a role in this individual variability of humans’ responses to putative pheromones.

Their focus was a proposed human pheromone called androstenone, which along with a related compound, androstadienone, is

derived from the male sex steroid testosterone. Androstenone has well-established pheromonal activity in pigs: it is secreted in the saliva of male pigs and when female pigs in estrus detect it, it triggers a receptive posture that allows the males to mate. In humans, its effects are less overt, but there is some evidence that it induces physiological responses in both men and women, including effects on autonomic nervous system function, cortisol levels, and mood.

Some people react favorably to the scent of androstenone, finding it pleasant or sweet, while others find it repulsive. Still others don't consciously perceive any smell when exposed to it. Intrigued by these contradictory responses, and by studies of twins that suggested there might be a genetic component to them, Matsunami and colleagues set out to find the genes involved. They wondered if small variations in the genes – so-called single nucleotide polymorphisms (SNPs) – might explain the observed variability in sensitivity to smells.

They examined hundreds of candidate genes before hitting pay dirt: a gene dubbed OR7D4 whose protein product acts as a selective and potent receptor for androstenone. Digging further, they identified two different SNPs, or variants of the gene, that correlated with people's perceptions about the smell of androstenone. People who inherited two copies of the functional form of the gene (one from each parent) described it as "sweaty" or "urine." In contrast, people who inherited only one copy, or no copy, either couldn't smell it at all or described its smell as "sweet" or "vanilla." The findings represent the first time anyone has identified SNPs in odor receptor genes that affect an individual's discernment and perception of scents.

"Our hypothesis is that there is a sort of competition going on in the brain between this receptor and others that have less pronounced effects, and when OR7D4 activation wins, people feel disgusted by the smell of androstenone," Matsunami says. "But if you have less input from this receptor – if the gene was mutated or you inherited just one copy of it, for example – then those less sensitive receptors may win, leaving you feeling more comfortable and pleasant."

Matsunami, Vosshall, and their teams are now focused on identifying the other gene variants and receptors that might be

responsible for the sweeter sensations of androstenone, and already have a number of candidate genes in their sights. Notably, with one receptor for androstenone now known, the door is wide open for a clearer examination of the compound's specific effects on physiology and behavior – work that might just settle the question of whether androstenone and its chemical cousins can rightly be called human pheromones.

Longstanding Dogma Overturned

Another example of how rigorous scientific investigation is changing the way people think about human pheromones is unfolding at the Harvard laboratory of neurobiologist Catherine Dulac, Ph.D. One reason many scientists have resisted the idea of human pheromones was the longstanding dogma that mammals sense the chemical signals through an "accessory" olfactory system – the so-called vomeronasal organ – that doesn't exist in humans. Through a series of carefully controlled experiments, Dulac's team has effectively shattered that tenet.

They started by disabling the vomeronasal organ in experimental mice, essentially shutting down its pathway to the brain. If the old dogma were true, the mice would be unresponsive to pheromones from other mice and unable to mate. Instead, the mice performed normally. Then, in another group of mice, the researchers disabled the main olfactory pathway, a system that is evolutionarily conserved in humans and many other species. To the great surprise of the scientists, these mice had profoundly abnormal behavior: they were completely unable to mate, and males were wholly uninterested in females. The finding confirmed that the sense of smell is essential for reproductive behavior in mice, but the vomeronasal organ seemingly had nothing to do with it.

"This was surprising to us because it showed that the animals' main sense of smell was involved in triggering these innate mating behaviors, whereas these behaviors had previously been thought to be triggered by non-conscious smell perception," says Dulac. "It was also quite interesting because humans do not have a vomeronasal organ but

they do have a main sense of smell, so it's entirely possible that animals in general – not just mice but maybe primates and even humans as well – are able to detect pheromones through the main olfactory pathway.”

Dulac's revelations have thrust open a new avenue for pheromone research on mammals, and should put to rest the argument against human pheromones based on the absence of a functional vomeronasal system in humans. To Hildebrand, her work is further proof that “there are a lot of perceptions out there about pheromone neurobiology and olfactory physiology in mammals that turn out to be absolutely dead wrong.”

¹ Wyatt TD. Fifty years of pheromones. (Opinion Essay) Nature 2009 Jan 15;457:262-3.

The Dana Foundation is a private philanthropic organization with particular interests in brain science, immunology, and arts education.

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