

# Natural Selection

A NEWSLETTER OF THE ROCKEFELLER UNIVERSITY COMMUNITY



## Grappling with Mental Health

SARAH BAKER

Photo Courtesy of Lavozy Magazine

The past few weeks have highlighted the mental health crisis that our society is facing. Two high-profile and esteemed celebrities, fashion designer Kate Spade and Chef Anthony Bourdain, were found dead just days apart. These perplexing suicides remind us that success does not make one immune to unhappiness. Spade and Bourdain were far from alone in their struggles with mental health, but their deaths do stress a public health issue that has long been set aside. Suicide rates have risen in the past ten years, and this increase has not been addressed adequately by our society, our policies, or our institutions. It is time to destigmatize depression as a society, and especially here in our own circle at The Rockefeller University.

The realization that important figures in society face the same mental health challenges that many of us do has the ability to start a movement to combat this crisis. Spade and Bourdain gave the appearance of mental stability to the outside world, though people close to them admitted that they were both struggling with depression. These tragic suicides have resonated with people who have realized how they themselves have been grappling with anxiety and depression and has also motivated others to reach out to their loved ones, friends, and acquaintances who

may also be struggling. The Twitter hashtag #MyStory has gone viral as many people, including celebrities, address their mental health struggles in a public forum.

Why have people suffered in silence for so long? And why do we still have so far to go in preventing these tragedies? The Center for Disease Control recently released a [report](#) indicating that 54% of people that have committed suicide in the past decade are people who were not known to be suffering from a mental illness like depression prior to their death. But many of these people were struggling with relationship or job problems, addiction, physical illnesses, or other immediate crises in their life. While people facing physical illness are often readily supported by friends and acquaintances, those suffering from mental illness usually feel that they must cope by themselves. Society regularly brushes off depression as mere sadness and suggests that, if someone just controls their thoughts, they will get over their feelings of misery.

We need to make mental health a priority. People who suffer need access to affordable and accessible mental health services. Adding more barriers to treatment deters the people who need it the most who are already overwhelmed and who we should nurture rather than push aside. The Trump admin-

istration is trying to strike down a provision of the Affordable Care Act that prohibits insurance providers from discriminating on the basis of pre-existing conditions, which include any history of depression or anxiety. If this is passed, it could be devastating for people who need mental health services, making them essentially unaffordable. Empathy for those suffering from mental health conditions is also lacking. Depression and anxiety are not a choice—they are real conditions derived from physiological changes and our health system needs to address them as such. Pharmacological and behavioral therapies do make a difference when treatment is done properly.

In the type of academic environment that I work in, a shift in focus on mental health is paramount, because it has been shown time and time again that individuals in academia suffer greatly. A recent [study](#) published in *Nature Biotechnology* showed that graduate students experience depression and anxiety at rates six times higher than the general population. Sleep deprivation, stress, and the scarcity of tenure-track positions all play a role. Young trainees put a lot of pressure on themselves to perform well, and often

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Photo Courtesy of Graham Briggs Photography

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face many internal mental challenges even though outwardly they may appear incredibly high-functioning. Females and non-gender conforming individuals suffer at higher levels than cis-males, and the relationship of the trainee to the principal investigator also contributes greatly to anxiety and depression, suggesting that mentorship is a crucial factor in student health.

I am now almost three years into my PhD and I fully understand how this environment can breed depression and anxiety. At breakfasts and lunches with prominent scientists hosted by the University where we have the chance to discuss career development, I have repeatedly heard that to make it to the top, you have to be tough. You have to battle to move up and not be affected too greatly by the challenges along the way. Although it is easy to suggest that resilience is the most important trait, I am often left with the feeling that success in academia is largely a solitary pursuit. Yet not everyone can just ignore an assault, or struggle on their own to come out on the other side stronger. Without a reliable network of mentors, friends, and other people you feel are facing the same things, it can be easy to get lost. Feelings of isolation and despair can be overwhelming. Yes, resilience is crucial, especially when failure is inherent in scientific research, but, as a community, we need to be better at developing this resilience in our trainees and showing them that they do not have to weather their struggles alone.

There is no one factor that leads to depression, anxiety, or suicide, but there are steps that we can take to cultivate mental health in

our community. This must go further than sending out an e-mail once a year listing the mental health services available. Some things that can help are stress and mindfulness workshops as well as events that promote physical, mental, and social health among the trainee population. Students should feel as if they are able to talk to their mentors to gain advice about career opportunities, especially if they are interested in careers outside of academia, in order to alleviate some of the anxiety that comes with reaching post-graduation goals. At the University of Minnesota, students are required to fill out annual evaluations that address both research progress and also overall well-being. Principal investigators then look over these self-evaluations and discuss the reports with their mentees. Simply having this formal system in place has led to increased communication between mentors and mentees about expectations and continuing steps in the training process. In addition, and perhaps most importantly, we must cultivate a culture that makes individuals who are struggling with mental health feel as if they can speak up and ask for help rather than suffer alone in silence.

Recent celebrity suicides have shed light on mental health issues. Now society needs to step up and address this public health crisis. Change can be made at the community level, and institutions should assess how they can prevent similar tragedies. Graduate students are a particularly vulnerable population and because the system of graduate education is a known risk factor for anxiety and depression. It needs to be addressed head-on. We

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## Natural Selections Editorial Board

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## EDITORIAL NOTE

This month, the *Natural Selections* Editorial Board bids farewell to Dakota Blackman. We would like to thank her for her dedication and for helping *Natural Selections* to become what it is today.

Dakota joined *Natural Selections* in May of last year as a contributor and editor. She served as the Editorial Assistant and contributed a regular column titled "Word of the Month", where she provided the origins of a particular word and deftly examined the timeliness of that word and relevance in today's society. In a short time, Dakota has made an indelible impact on the Editorial Board. She leaves us this summer in pursuit of a Ph.D. at Princeton University.

must shift towards more openness in the ability to discuss these issues. Our communities do have the choice to increase access to mental health services and to promote cultural change. At Rockefeller, a vibrant institution full of some of the best scientists in the world, no one should have to go it alone.

### Rockefeller University Counseling and Mental Health Care Resources:

Confidential access to personal counseling and mental health care for all students is available through the [Tri-institutional Employee Assistance Program Consortium \(EAPC\)](#). If your life seems to be getting harder to deal with, do not hesitate to contact EAPC. In an emergency, they are available at (212) 746-5890, 24 hours a day, 7 days a week.

Employee Assistance Program  
409 East 60th Street, Rm. 3-305 (between York and 1st Ave.)  
Regular hours are 9 a.m. to 5 p.m.  
Monday through Friday  
Phone 212-746-5890

EAPC provides short-term counseling to members of the Rockefeller, Cornell, NY Hospital, Hospital for Special Surgery, and Sloan-Kettering community—students, their families and significant others included. The service is provided at no charge to individuals.

EAPC is a confidential referral service geared towards short-term problems-solving for any personal problem you may have—depression, loneliness, relationship or family issues, substance abuse, legal or financial problems, child care services—anything. The social workers on staff will first help you evaluate what your situation is, and then discuss all possible avenues for resolving the situation to your satisfaction. There is no long-term counseling offered at EAPC, but they can set you up with counseling if it is needed. Referrals for counseling include psychiatrists, psychologists, psychotherapists of other types, and social workers. A few visits to EAPC (maybe only one!) may be all that is necessary for you. Appointments may be made during normal business hours and there is a 24-hour emergency cover given through the number given above.

On site counseling services are also available. Dr. Daniel Knoepfelmacher, M.D. is available two days a week to meet privately with members of the RU community. If interested in scheduling a confidential appoint-

ment, please contact Occupational Health Services at (212) 327-8414.

**For those who prefer a more holistic approach to mental health, Rockefeller Wellness has got you covered:**

Mindfulness Practices for Stress Reduction Stress is one of the biggest contributors to poor health. Its effects can cause physical illness, damage relationships, and negatively impact work performance. Mindfulness meditation is a means to reduce stress, boost the immune system, improve attention, and promote well-being. Try [Sitting Meditation](#) or the [Body Scan](#) on your own with a guided audio clip of Dr. Patricia Bloom.

Patricia A. Bloom, MD is a Clinical Associate Professor of Geriatrics at the Icahn Medical School of Mount Sinai and the past Director of Integrative Health for the Martha Stewart Center for Living at the Mount Sinai Medical Center. Her main interests include the promotion of healthy aging, integrative health, stress reduction and Mind Body Medicine. She teaches meditation and Mindfulness-Based Stress Reduction for patients and conducts stress reduction workshops for professional and workplace groups. Dr. Bloom has been listed as one of New York Magazine's "Best Doctors" for 15 years. In 2012 she was honored by the New York City Zen Center for Contemplative Care for her work advancing integrative medicine in academic settings.

[Mindfulness Resources](#) in and around New York City.

**Editor's Note:** Access to the URLs in the above Rockefeller Wellness section is restricted to

those within the Rockefeller community.

### American Foundation for Suicide Prevention's Guide:

#### Warning Signs of Suicide:

- Talking about wanting to die
- Looking for a way to kill oneself
- Talking about feeling hopeless or having no purpose
- Talking about feeling trapped or in unbearable pain
- Talking about being a burden to others
- Increasing the use of alcohol or drugs
- Acting anxious, agitated or recklessly
- Sleeping too little or too much
- Withdrawing or feeling isolated
- Showing rage or talking about seeking revenge
- Displaying extreme mood swings

The more of these signs a person shows, the greater the risk. Warning signs are associated with suicide but may not be what causes a suicide.

#### If someone you know exhibits warning signs of suicide:

- Do not leave the person alone
- Remove any firearms, alcohol, drugs or sharp objects that could be used in a suicide attempt
- Call the U.S. National Suicide Prevention Lifeline at 800-273-TALK (8255)
- Take the person to an emergency room or seek help from a medical or mental health professional



Photo Courtesy of Mario Kociper

# Rockets' Red Glare

AILEEN MARSHALL



Are you looking forward to the Fourth of July holiday? It's great to get a day off from work, and, of course, it is a celebration of the country's independence. Yet another thing to get excited about is the traditional fireworks displays. Fireworks have been a part of the Independence Day tradition since the holiday started. There are all sorts of displays across the country, from hour-long, high-tech shows in big cities to local fire departments setting off Roman candles and a few standard fireworks in small towns.

Where did fireworks come from? Although some sources credit India as the country of origin, most sources say they were invented in China as far back as 200 B.C. People would roast bamboo branches, then the air pockets inside the bamboo would make a loud pop. At first, the Chinese would use these to ward off evil spirits. Some time between the tenth and twelfth centuries, they learned that if they put an early form of gunpowder inside the branch, it would make an even louder bang, which is credited as being the first firecracker. Adding shavings from iron or steel inside the bamboo make them sparkle. After a while, they learned to attach firecrackers to arrows, and shoot them at enemies. They even created simple rockets by putting gunpowder in a wide tube with the bottom end open and lighting a fuse, which they then aimed at opposing armies.

During the twelfth century with the development of the Silk Road, gunpowder and fireworks started making their way to Europe. Throughout the Renaissance, fireworks spread across Europe and became popular to use for celebrations. They were used during the wedding of Henry the VII of England and the coronation of Anne Boleyn. Italy became famous for its experts in fireworks manufacturing and the production of colorful displays. In 1742, George II ordered a display to mark the end of the War of Austrian Succession and commissioned Handel's *Music for the Royal Fireworks* specifically for the event.

The early European settlers brought fireworks with them to the American colonies. Captain John Smith set off the very first fireworks in America in Jamestown, Virginia in 1608. It was John Adams who started the tradition of using fireworks, or "illuminations", as they were then called,

to celebrate Independence Day. On July 3, 1776 he wrote a letter to his wife about the Continental Congress adopting the Declaration of Independence. In the letter, he wrote, "I am apt to believe that it will be celebrated, by succeeding Generations, as the great anniversary Festival. ... It ought to be solemnized with Pomp and Parade, with Shews, Games, Sports, Guns, Bells, Bonfires and Illuminations from one End of this Continent to the other from this Time forward forever more." Philadelphia held the first Fourth of July fireworks show the following year, along with shooting off guns and cannons. In 1789, fireworks were used for George Washington's inauguration. At that point, fireworks were widely available for sale to the public. Over the years, it became common for politicians to use them to attract attention to their speeches, though early displays were relatively small by today's standards. By the mid-1800s it was common throughout the country to have fireworks for the Fourth of July. A relatively long fireworks show was launched over the Brooklyn Bridge in 1892 to mark the 400th anniversary of Columbus landing in the Americas. Notable pyrotechnic shows were held in Washington D.C. in 1976 for the Bicentennial and New York in 1983 for the Brooklyn Bridge Centennial. What many consider the greatest display was held over New York Harbor in 1986 for the 100th anniversary of the Statue of Liberty.

The very early fireworks were nothing more than a big bang and a flash of orange light. It was the addition of various chemicals over the centuries that created the different colors and shapes that we know today. The Chinese early form of gunpowder consisted of saltpeter (potassium nitrate), sulfur, and carbon from charcoal. In the 1800s, Italian masters added various chemicals to create colors and the sunburst shape. Today, pyrotechnics are made up of two parts: the mortar that propels it up into the air and the shell that explodes in the air in a pre-determined shape. The mortar contains gunpowder, where currently, potassium nitrate is replaced with potassium chlorate, an oxidation agent, raising the combustion temperature of the fireworks to 2,000 °C (3,632 °F). This allows for the utilization of a variety of chemicals for colors. The shell holds gunpowder and nodules of chemicals, called stars, which give the firework its

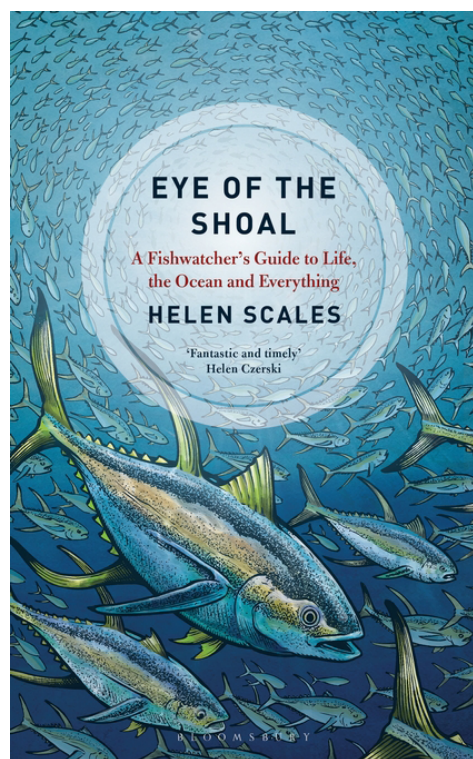
colors. Various metal salts burn to give off the different colors. Calcium salts burn orange, sodium salts burn yellow and copper salts burn blue. If the stars are distributed randomly in the shell, they will explode in a circular shape. If they are packed in the shell in specific patterns, they will explode in specific shapes, such as a weeping willow or concentric circles. The chemical reaction of gases expanding faster than the speed of sound makes the loud boom.

Unfortunately, fireworks also have their downside. They can be very dangerous and cause damage, injuries, and even deaths. As early as 1731, a law was passed in Rhode Island banning the "mischievous" use of fireworks. By 1783, out of a growing concern for public safety, weapons for Independence Day celebrations were phased out and municipalities encouraged only official fireworks shows. From 1903 to 1907, 1,153 people were killed and 21,520 were injured in the United States from fireworks. In 1964, a Macy's barge set up with fireworks for the Fourth of July show went off prematurely. Two people were killed and four were injured. A fireworks factory in the Netherlands exploded in 2000, destroying 400 houses and killing 17 people. As late as 2013, eight people died and 11,000 were injured in the U.S. A. alone. On July 4, 2015 Jason Pierre-Paul, a defensive end for the New York Giants, severely injured his hand trying to set off some fireworks. He subsequently had to have his right index finger amputated, which significantly affected his career. Today, the sale of fireworks is illegal in many states, including New York. In those states where it is allowed, fireworks sold to consumers are supposed to contain less than 50 milligrams of gunpowder.

However, here in the city, we can enjoy some great pyrotechnics without the danger. Macy's has had a Fourth of July fireworks show for over fifty years. The barges will be back on the East River this year, which means that some of it can be seen from the Rockefeller campus. The actual fireworks show starts at 9:20 p.m., but the television broadcast on NBC starts at 8:00 p.m. There are always a number of celebrities performing. This year they will be marking the 100th anniversary of Irving Berlin's *God Bless America*, with a rendition by Kelly Clarkson. Whatever you do during this holiday, be sure to be safe.

# Eye of the Shoal: A Fishwatcher's Guide to Life, the Ocean and Everything

EMMA GARST



Helen Scales  
Bloomsbury Sigma, 2018  
320 pages  
Hardback, \$27.00

Consider the Barreleye, a deep-sea fish named for its two long, cylindrical eyes pointed directly upwards towards the water's surface. These googly eyes are covered by a clear, membranous dome, giving the fish the distinct look of some unhappy alien, stuck in a space suit, drifting along listlessly on its back. These aesthetic quirks are not what make the barreleye interesting; it is what is inside the eye. The Barreleye uses tiny microcrystals in its eye to reflect light back into the retina, acting as little mirrors collecting every trace of ambient light. It is the only animal known to use mirrors to see.

The Barreleye is just one of the many strange, finned beasts we meet in Helen Scales' new book, *Eye of the Shoal*, which takes a wide ranging, deep diving look at the fascinating history and biology of fish. *Eye of the Shoal* focuses not on a particular underwater ecosystem or community, but a hodge-podge of fishy players exquisitely adapted to fill every watery nook and cranny across the globe. Scales makes a compelling case for looking closely at any fish

that crosses your path; although many of the characters we meet live in the reef, she makes sure to give the residents of your local fish tank their due. In *Eye of the Shoal*, Scales brings us into the rich, diverse, glorious world of fish full tilt—and has a good time doing it.

*Eye of the Shoal* is the story of fish told through their evolution, their diversity, their colors, their communication, and their intelligence. Scales, a veteran science writer and lecturer at the University of Cambridge, has a knack for meshing storytelling with scientific insight. In one section, she brings us into the complicated inner life of a cleaner wrasse, a small, blue-streaked reef fish, which makes a living cleaning parasitic crustaceans off the bellies of fish and picking gunk out of the teeth of normally vicious predators. The wrasse's customers line up around the metaphorical block to get a lippy scrubbing down by the cleaner wrasse, many returning multiple times a day. Although the wrasse mostly subsists off of his customers' unwanted detritus, he would much rather take a big nutrient rich bite of fish flesh instead. If the wrasse becomes known as a flesh-eater, however, he will be distrusted and lose his customers. Scales walks us through the complicated social dynamic that controls the wrasse's business—when can he take a chance for a fleshy bite? Which clients will continue to patronize his business given this breach in social contract? Navigating this complex social exchange “requires a surprising amount of brainpower”, Scales points out, and the reader is sure to come away with a deeper appreciation for this fish's non-human intelligence. Helen Scales, breaking down species bias one fish at a time.

Within the larger structural framework, Scales leaves plenty of room for animal rarities and oddities. We meet the Pacific and Atlantic herring, which are “the only animals known that communicate with flatulence.” We meet the long-lived Greenland Sharks, who “may mate for the first time when they're 150 years old.” We meet fish who scuttle between ponds (the Walking Catfish) and fish who live for months out of water (the Mangrove killifish). We meet the beaky parrot fish, which have “a second set of teeth at the back of

the throat” used to grind up between four and six tons of limestone a year, building veritable islands out of their poo. Scales highlights these “fish stories” to make a bigger point about fish, their diversity, their lives—but she also brings a feeling of genuine glee to all her interactions with these weird and wonderful animals.

Although Scales does not explicitly set out to make a statement—about global warming, loss of habitat, overfishing, or any of the other slow motion ecological disasters affecting fish—any book on the topic of fish and their many environs would have a gaping hole without mentioning how humans have impacted their water-bound neighbors. The most touching of these examples is a personal anecdote from Scales, who studied a community of humphead wrasse in the South China Sea during her Ph.D. at the University of Cambridge. After spending years studying these fish and their complicated mating habits, she discovered that the entire community was fished out of existence shortly after she left her field station. “My efforts to study humpheads suddenly felt hollow,” she writes—and we, the readers, are left feeling hollow as well. If we come away from *Eye of the Shoal* caring more about fish and the ocean, it is not through overt messaging but through the genuine feeling Scales communicates.

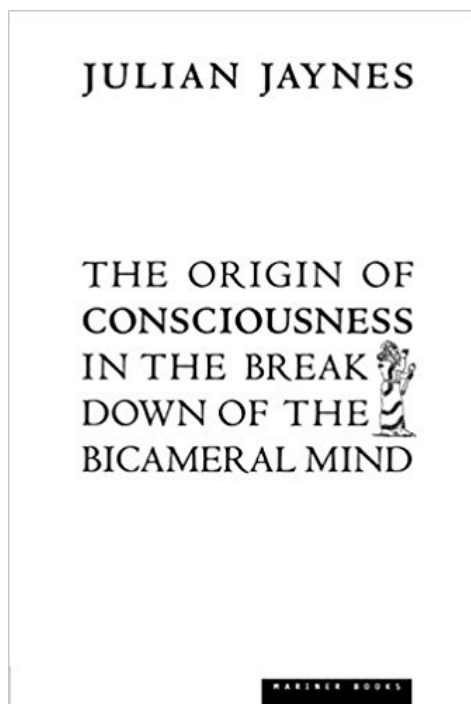
*Eye of the Shoal* is largely a fun romp through fishy space and time, but it does suffer from overreach. Summarizing the whole of fish science and history in 320 pages is impossible, and the attempt leaves the book, at places, weak in its connective tissue. In an attempt to emphasize the importance of fish throughout human history, Scales scatters fish-related myth and legend throughout the book—a conceit that frequently seems forced. In order to orient the reader in fish ancestry, Scales spends the first chapter climbing through the evolutionary tree of life, branch by laborious branch. Unfortunately, it drags. I sincerely hope this slow opening does not turn the reader off of *Eye of the Shoal*, as it is out of character with Scales' normal carnivalesque approach to her subject matter.

In the end, Scales does what she set out to do: “to convince you that fish matter, and that they're worthy of our attention and esteem.”

## Culture Corner

### *The Origin of Consciousness in the Breakdown of the Bicameral Mind*

BERNIE LANGS



Julian Jaynes  
Houghton Mifflin, 1990; originally published in 1976  
491 pages  
Paperback, \$15.00

Having read two-thirds of *The Origin of Consciousness in the Breakdown of the Bicameral Mind*, by Julian Jaynes, Ph.D., I am comfortable in discussing the ideas proposed in this groundbreaking, extraordinarily exciting treatise prior to finishing the book. Dr. Jaynes lays out his theories and conclusions from the very start, working backwards by examining detailed supporting evidence, which he offers as proof of his hypotheses. *The Origin* has evoked a wide spectrum of reactions since its publication in 1976, labeled by some critics as nothing more than an outlandish set of propositions, while others embraced it as a revolutionary and unique perspective on how the mind developed in the ancient world.

Dr. Jaynes' presentation of such a large-scale and all-encompassing overview on the subject of the history of mankind's inner thinking can't possibly hit the bullseye. Yet in *The Origin* he proposes with confidence and endearing, affable humility that he has discovered how human neurological development worked in tandem with historical, religious, cultural, economic, and social events mostly over the last three thousand years he discusses how this ultimately leads to the unique, individual, and highly structured voice we



Two cylinder seals with modern impressions; top: Weather god on a lion dragon, Northern Mesopotamia, Mitannian period, mid-2nd millennium B.C.; bottom: Worshiper and a god with a rod and a ring, Mesopotamia, Kassite period, reign of Kurigalzu I, early 14th century, B.C. (The Metropolitan Museum of Art)

maintain today: our inner consciousness.

Although this book is at times scatter-shot, it must be recognized at least as a great start to further engage in a more complete, nuanced, and timely follow-up. Dr. Jaynes' theory centers around details of the biology of the brain and interpretation of the vast ancient historical record, and he readily notes that such an enormous theory of everything needs more work and study. Dr. Jaynes concedes that many of his ideas are speculative, but he does not waver from his belief in its basic foundation. One may criticize, for example, his dependence on selective writings, artifacts, and remains from the ancient period for use in generalizing what motivated the behavior and interior observations of all people thousands of years ago.

When looking at the statues, buildings, imprints of seals, ivories, and so on from ancient Middle East, we can't help but make assumptions about the past based on our contemporary atmosphere. Yet it is apparent, as Dr. Jaynes notes, that in the regions covered by the book the expressions and features of kings, gods, attendants, and others are cold-hearted and emotionally distant. Eventually, there's a slow progression, culminating with



Wall-sized Assyrian palace sculpture (detail); 883-859 B.C. (The Metropolitan Museum of Art)

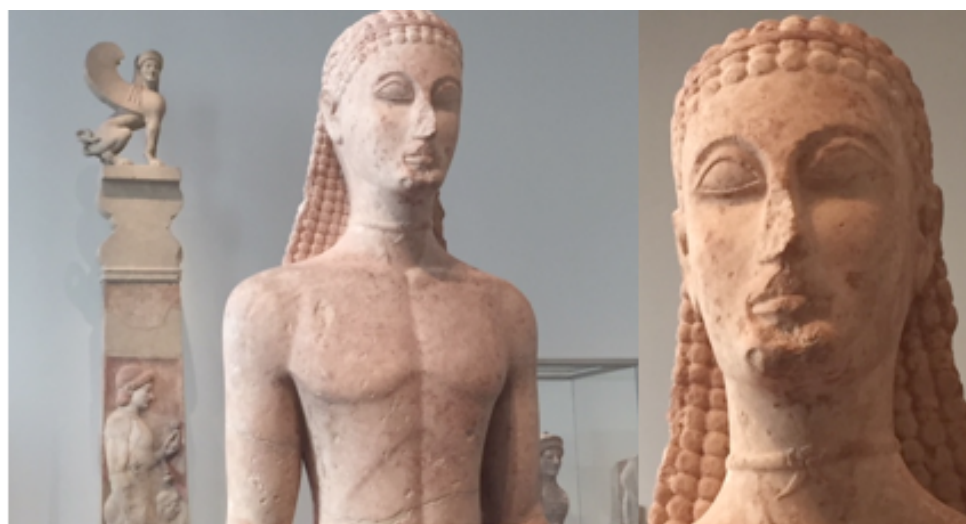
the ancient Greeks at about 700 B.C., as the images morph into representations graced with loving beauty, heroic postures, grand gestures, and an appreciation, bordering on ecstatic at times, on notions of both body and soul.

Dr. Jaynes details the Greek reaction to the horrific misery of the "Dark Ages" which

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were initiated in about 1200 B.C. and lasted several centuries, set in motion the timeline that will eventually resolve into the way we speak to ourselves in our heads to day. The proposed “bicameral mind”, presented in *The Origin* can't be observed or proved to actually exist, yet the theory is beautifully described with personal passion by Dr. Jaynes. He believes that the left and right portions of the brain were divided in the way they processed the external world surrounding ancient mankind, with one half fooled by the other to believe that hallucinated voices originated from sources that could be deemed as commands by the gods. These voices, heard only by some, arose as spoken language along with the development of the written word. Those with the strongest connection to what they believed was the forceful directing of society by these vocalizations took on the roles of king, priest, or intermediary with the gods.

Dr. Jaynes proposes this system developed regionally and with individual characteristics throughout the area under study. The so-called “breakdown” of the bicameral mind occurred slowly over centuries, after populations grew, war became unexpectedly common, and trade led to increased contact between varying tribes and societies. These changes introduced incompatible rival gods and customs in the region leading to confusion of the voices, akin to the described mayhem in the biblical story of the Tower of Babel. Dr. Jaynes also describes several natural crises that put the normalized system of the period into panic. By the start of the first millennium, Homer's work had been passed down for generations and finally canonized in *The Iliad*, and Dr. Jaynes unveils the tense



Marble statue of a kouros (youth) with close-up of face; Greek, Attic, ca. 590-580 B.C. (The Metropolitan Museum of Art)

Photo by Bernie Langs

struggle within the general population, as the hallucinated commanding voices needed to be replaced for survival's sake by an emerging personal, inner dialogue. Jaynes' discussion and analysis of these changes motivating the non-evolutionary, yet biological shift, reads as the most historically and scientifically sound section of the book. Ancient mankind perceived the world through external instinctual sensation, which Dr. Jaynes believes was dominated and ordered by invisible vocalizations. After 1000 B.C., the world had to adapt to changes on many levels making internal decision-making processes take over based on reactions to visual stimuli. The world moves from the shackles of auditory constraints towards the eye's window to the soul.

I have to admit that I do not completely believe Dr. Jaynes' idea that the minds of those living in the ancient civilizations under study lived and died by the commands and rules laid out by hallucinated voices of the so-

called gods and divinities. The tenuous biological support of the wider theory, which relies on studies that discussed observations of patients today with neurological conditions and symptoms mirroring what he believes were the hallucinated and god-like voices in the heads of the ancients (e.g., schizophrenia).

Perhaps the works of the Pre-Socratics and others who put aside the conception of the gods as creators of the physical world and the actions of men can be read as the evidence of the final labor push of the birth of the inner individual. Standing in front of the famous *Kouros* sculpture from ancient Greece the other day at the Metropolitan Museum of Art, I meditated on its mysterious face in light of the theories of Dr. Jaynes. The sculpted youth appears ready to wake up, was along with the whole world, to freedom granted by new consciousness. You can almost hear the voice of reason speak for the first time.

## QUOTABLE QUOTE

*“She is quick and curious and playful and strong. She is a voracious reader and a fantastic dancer. She saves old snapshots but always loses her umbrella. Her emails pile up, but she never forgets to call her grandmother. She has \$7 in change at the bottom of her handbag.”*

**Kate Spade (1962-2018)**  
on the typical Kate Spade girl



## Life on a Roll

### Morocco Series #2 - Fes

QIONG WANG

Fes, one of the four royal cities in Morocco, is famous for its rich culture and history. The old medina is like the sacred labyrinth of the moors. Hundreds of uneven narrow lanes turn and terminate capriciously, and thousands of short old houses have managed to squeeze themselves inside this royal city for over a thousand years. The tiny streets are so narrow that when a horse passes by, everybody needs to stand by to let them pass. Sometimes the lanes are ensconced in darkness — even during the day, keeping you alert. Less than 10 minutes after stepping into the medina, I found myself lost completely, and realized that English and Google Maps were not that useful.

The most famous scene of Fes is, of course, the colorful view of the dye pits from the rooftop at the expense of a very bad sulfur smell. This is where whole pieces of skin are stripped off the animals and processed into genuine leather. Luckily, the smell was not as strong during winter, but, still, it was not a pleasant scene to see up close. It is hard to imagine the factory workers submerging themselves in the dying barrels for hours each day. Fes might be a sacred place for many, but I think I will avoid a second visit.



## Life on a Roll Italy

BERNIE LANGS



Italy remains a favorite spot for my family to enjoy vacations. In May, we spent several days sightseeing in Florence and took a fabulous day trip for wine and cheese tasting, which included stops around Tuscany in Pienza, Montepulciano, and Montalcino.

As one climbs inner, narrow stairways to the roof of the Florence Cathedral (Il Duomo di Firenze), there are areas where one can emerge to view the cathedral from catwalks high above, including the fantastic sight of the upper painted interior under the dome. The Duomo, a majestic wonder of both architecture and engineering, was completed in 1436 from designs by Filippo Brunelleschi, and features paintings of the "Last Judgement" done by Giorgio Vasari, Federico Zuccari and their collaborators in the mid- to late-16th century.

The interior dome of the Florence Baptistery of Saint John is covered with spectacular mosaics. The octagonal building was constructed between 1059 and 1128 with the mosaics added over a century starting in the year 1225. The building's famous "Gates of Paradise", sculpted by Lorenzo Ghiberti in the early 1400s, have been restored and are now housed in the nearby Museo dell'Opera del Duomo.

Pienza is a beautiful small city in Tuscany near Siena. The 15th century Pope Pius II had the town rebuilt as an ideal Renaissance village, working with the Florentine architect Bernardo Rossellino. The views of



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