

NEWS, VIEWS AND COMMENTS

Centenary Celebration for Scottish Missionary Mary Slessor: A Lasting Legacy for Twins/Twin Research: Twins With Klinefelter's Syndrome; Twin Research on Atopic Diseases; Twin Study of Autism; Psychotherapy with Twins / General Interest: Female Twin Pole-Vaulters; Longest Twin Birth Interval; Pair of Franco-Cuban Vocalists; Croatian Twin Models

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The centenary celebration for Scottish missionary, Mary Slessor, took place on February 14, 2015 in Melle, Belgium. Slessor saved many newborn twins and their mothers from death and disownment by members of their community, including their families, who believed twins harbored evil spirits. The events of this unusual and significant gathering are described. Next, twin research and reports concerning Klinefelter's disease, atopic diseases, autism and psychotherapy are presented. General interest subjects include identical female twin pole-vaulters, the longest twin birth interval, Franco-Cuban twin vocalists, and Croatian twin models.

Centenary Celebration for Scottish Missionary Mary Slessor: A Lasting Legacy for Twins

A celebration honoring Scottish missionary, Mary Slessor, took place on February 14, 2015 in Melle, Belgium, just outside Ghent. I first heard of Mary Slessor in November 2013, when Dr Catherine Derom forwarded a text by Mr Ette Ibibio describing Slessor's extraordinary contributions to the health and well-being of twins and their mothers in Calabar, Nigeria. Calabar is located in the Niger Delta in the southeastern part of the country. I authored a brief overview of Mary Slessor in a previous article published

in *Twin Research and Human Genetics* (Segal, 2014). Her picture is displayed in [Figure 1](#).

The Mary Slessor Project is documented on Mr Ibibio's web site. Ibibio manages projects 'at the grass roots level for cultural, social, economical, technological, and environmental development in rural communities' (<http://www.etteibio.com/What%20we%20do.html>). He is also a cultural consultant and the owner and chef of an African restaurant, located in Ghent, whose proceeds support the various projects. The restaurant will have been in operation for 20 years on April 1, 2015. Ibibio is also the father of six children, four sons and two daughters. His last-born children are 5-year-old opposite-sex twins, Etifa (boy; 'Ibibio deity') and Idara (girl; 'joy'). Ibibio is shown alone in [Figure 2](#) and with his twins in [Figure 3](#).

In November 2014, an opportunity to participate in a February 2015 international event honoring Slessor's life and work arose. The event was the 'Mary Slessor 1915–2015 Centenary: Freedom Fighter for Twins'. It was organized and hosted by Mr Effanga Peter Essien — aka

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FIGURE 1
Mary Mitchell Slessor. Photo courtesy: Mary Slessor Foundation, Dundee, Scotland.



FIGURE 2
(Colour online) Ette Ibibio. Photo credit: Dr Nancy L. Segal.



FIGURE 3
(Colour online) Ette Ibibio and his twin children. Left to right: Idara, Ette Ibibio, Etifia. Photo credit: Dr Nancy L. Segal.

Ette Ibibio. An earlier centenary celebration took place on January 13, 2015 at the General Hospital ITU, Great-Hill-Obot Itu, in Nigeria, through the initiative of the Ette Ibibio Foundation.

Mary Mitchell Slessor was born in Gilcomston, Aberdeen in Scotland on December 2, 1848. She became a mission-

ary teacher at age 28, as part of the Scottish United Presbyterian Church in Calabar. She has been described as ‘a Scottish lady with the courage of a Nigerian man’ (see <http://infomaryslessor.org>). This characterization comes from Slessor’s remarkable accomplishments, carried out despite her struggles with arduous travel, harsh living conditions, antagonistic exchanges and failing health. Her life and work are well documented in a biography by Bueltmann (2011) that I read prior to the gathering. Specifically, Slessor saved many newborn twins and their mothers from death and disownment by members of their community, including their families, who believed twins harbored evil spirits. Over the years, Slessor adopted eight children, six girls and two boys, all of whom carried her family name (Mary Slessor Foundation, 2015).

The events of the Mary Slessor centenary unfolded during the course of an afternoon and evening. The venue was Studio M, decorated with special banners from the Presbyterian Church that Slessor represented. Pastor Samson Afolabi opened the session with a prayer, followed by a toast. The first talk was ‘The Story of Mary Slessor’, delivered by Mr Eddy Eka of Nigeria. In addition to hearing details of her early life, we learned that Slessor saved her first twin — Janie — in 1882. She was called ‘Everybody’s Mother’. Today in Calabar, a school, church and park bear her name, and a statue of her shown carrying twins has been constructed.

The next speaker was Alexander Karl, originally from Germany, who works with the European International Space Station. His talk, titled ‘Discovering Mary Slessor Between the Stars’, described the process of naming an asteroid for Mary Slessor. Approximately two years ago, Karl came up with the idea of naming an asteroid after Slessor. A request was sent to the International Astronomical Union through an initiative of the NGO Ette Ibibio, in preparation for the 2015 centenary celebrations, and it was approved. Asteroids are small rocks that revolve around the sun, mostly between Mars and Jupiter. They vary in size from tens of meters across to 1,000 meters in diameter (Asteroid, 2015). There are several million asteroids in our solar system. When an asteroid is discovered, it receives a provisional designation indicating the year and time of year of its identification (Planetary Society, 2015). The asteroid named after Mary Slessor (4793 Slessor) was provisionally designated 1988 RR₄.

Slessor’s asteroid (1988 RR₄) was discovered by the Belgian astronomer Henri Debehogne at the La Silla Observatory in Chile, on September 1, 1988. Hers was the 117th asteroid discovered during the first half-month of September. (The first letter — R — indicates the half-month the asteroid was discovered, in this case September 1–15. The second letter and number — R₄ — indicate the order of discovery within the half-month. R stands for 17 and the subscript 4 stands for 100, the number of times that the letters have cycled through, yielding $17 + 100 = 117$. In other words, the Mary Slessor asteroid was the 117th one found during the first half-month of September 1988 (see

Provisional Designation in Astronomy, 2015, for further explanation).

The next speaker was Dr Calixtus Idio of Nigeria, who considered why Mary Slessor is largely unknown, compared with the famous nurse Florence Nightingale. Both of these women made significant contributions to health and society during overlapping years; Nightingale lived from 1820 to 1910. Idio suggested that Nightingale's wealthy European background may explain why her work was propelled more forcefully into the spotlight than that of Mary Slessor. Idio also paid tribute to Ette Ibibio's development foundation, particularly for projects initiated in Nigeria.

These talks were followed by an informative overview, 'The Biology and Epidemiology of Twinning', by Dr Catherine Derom of Belgium. Her study of 200 MZ twin pairs showed that 32% were dichorionic-diamniotic, 66% were monozygotic-diamniotic and 2% were monozygotic-monoamniotic. More female than male pairs were represented in the monozygotic group. I (Dr Nancy Segal) delivered the last talk, titled 'Psychology of Being and Raising Twins'. I discussed the generally closer social relationships within MZ than DZ twin pairs. I also examined issues confronting parents of twins, such as the pros and cons of separate versus same classrooms and similar versus different outfits for twins.

Ibibio is dedicated to restoring the memory of Mary Slessor after many years of her neglect. One way he is doing so is by creating new Ibibio names for twins: Kendi (first-born, meaning 'I'm on my way') and Amedi (second-born, meaning 'You are welcome'). Families can now choose to give these unique names to their twins with dignity and pride. I was honored to be granted the Ambassadorship of these wonderful children to be.

Mary Slessor is buried in Nigeria. Additional information about her life and work, as well as the projects of Ette Ibibio, can be found at his website: <http://www.etteibibio.com>

Twin Research

Twins With Klinefelter's Syndrome

A fascinating case of MZ male twins discordant for Klinefelter's syndrome was reported by Spanish researchers Benaiges et al. (2014). Klinefelter's syndrome (47, XXY) is a common form of male hypogonadism, a condition marked by insufficient testosterone production. Klinefelter's syndrome patients display wide clinical variation, with only 10% of cases identified during puberty. The case in question concerned MZ male twins who both showed mosaicism (47, XXY, 46, XY) for the condition, but presented very different clinical pictures. The twins' zygosity was based on the presence of a single placenta; photographs of the twins taken as children show considerable physical resemblance, consistent with monozygosity.

The index case (twin 1) was diagnosed at age 45 while undergoing examination for mild anemia. A bone marrow

aspiration revealed a 47, XYY karyotype, while lymphocyte study showed the mosaic chromosomal pattern. Twin 1 was 175 cm tall and weighed 65.3 kg. Free testosterone levels were not detected, gonadotropins were elevated and severe osteopenia was evident. His twin brother (twin 2) was then requested for study. Unlike twin 1, twin 2 had experienced an adolescent growth spurt, such that his height was 195 cm and his weight was 85 kg. Twin 2 also showed normal testosterone levels.

Benaiges et al. (2014) suggested that the twins' mosaicism occurred as follows: Following the production of a normal 46, XY zygote there was non-disjunction during a mitotic division, creating one embryo with a normal (46, XY) cell line and a 47, XYY cell line. Division of this embryo would then yield MZ twins with the same mosaicism. It was also suggested that the key factor underlying the twins' phenotypic differences was the degree to which the mosaicism affected the testicular tissue. In addition, over-expression of the SHOX (short stature homeobox-containing) gene in twin 2 could explain his normal stature; this gene is also responsible for the reduced height of Turner's syndrome (45, X0) patients. It was noted that the clinical consequences of Klinefelter's syndrome are explained by genes that are not inactivated in the extra X chromosome.

Twin Research on Atopic Diseases

The extent to which genetic and environmental factors underlie atopic diseases has been debated for some time. According to Danish researchers Kahr et al. (2014), twin studies show that approximately 80% of the variation in atopic diseases is associated with genetic factors. They also pointed out that large epidemiological research on non-twins has linked environmental factors (e.g., socioeconomic status and parental smoking) to atopic disease in children. In order to address this issue, these investigators administered a questionnaire to parents of twin children enrolled in the Danish Twin Registry between 1994 and 2000. The reasoning was that MZ twins with different early life environmental exposures (e.g., type of delivery and maternal age) might show differences in being affected by atopic disease. The final sample included data on 850 MZ and 2,279 DZ same-sex twin pairs, between 3 and 9 years of age. Questions were modified from those included in forms administered to participants in the International Study of Asthma and Allergies in Childhood.

The researchers were unable to find evidence that differential exposure was linked to differences in twins' atopic disease. They concluded that the causal link between risk factors and atopic diseases may be mediated by mechanisms other than gene-environment interaction. However, they did find that cesarean section delivery and maternal smoking during delivery were associated with asthma in children, once prematurity was controlled. These factors did not affect risk for dermatitis or hay fever.

Twin Study of Autism

Autism spectrum disorder (ASD) is a neurodevelopmental condition that has many forms and expressions. A recent twin study by Frazier et al. (2014) is informative regarding examination of the genetic and shared environmental factors of this condition. They noted first that two symptom dimensions are recognized by DSM-5 criteria: social communication/interaction (SCI) and restricted/repetitive behavior (RRB). Some specific genetic variants of ASD have been identified, accounting for 15–20% of the cases.

The research included 128 MZ and 186 DZ twin pairs, the largest ASD sample studied thus far. The three aims of the project were:

(1) to characterize and compare the heritable and environmental components of quantitatively-assessed autism symptoms and categorically defined ASD, (2) to determine whether the magnitude of heritability estimates is consistent between extreme (group heritability) and typical symptoms (individual differences heritability), and (3) to estimate the magnitude of common and independent heritable influences on SCI and RRB symptom domains. (Frazier et al., 2014, p. 2)

The research team found very high heritability for extreme levels of autism, but low heritability for categorical diagnoses. Group heritability values for extreme symptoms exceeded 0.92, in contrast with 0.21 for categorical diagnoses. Shared environmental influences were small for most extreme levels of the disorder, but were considerable in the categorical analysis. In addition, SCI and RRB symptoms had high genetic correlations.

It was suggested that the liability threshold model used in this study may explain the discrepant findings between the two sets of analyses. Specifically, the model may be significantly affected by small changes in diagnosis; for example, increases in DZ twin concordance would depress estimates of heritability. Future studies along these lines should recognize such limitations.

Psychotherapy With Twins

Some twins seek psychotherapy to help manage issues arising within their twinship. Unfortunately, very few clinical psychologists and psychotherapists are well acquainted with the unique events and circumstances that characterize some twins (e.g., fear of life apart from the co-twin; inability to connect meaningfully with others), especially twins in identical pairs. (These issues also affect non-twins, but assume a different meaning and significance when twins are involved. That is because social problems stem directly from the twin relationship.) Wright (2010), an identical twin, has written clearly and candidly about her own experience as a twin undergoing psychotherapy for twin relationship difficulties. This article should be read by clinicians

whose clients include, or could potentially include, twins.

Among the problems posed by Wright's twinship were trust in no one beside her twin and a social closeness that left her little room for personal growth or change. Most importantly, she indicated that her therapist overlooked the significance of her twinship during the years she spent in therapy. In her own words, 'You who choose to work with a twin need to know that we are different, we are hard-wired for a unique way of relating to you and others. And we need you to recognize that, not deny it or neglect it' (Wright, 2010, p. 272).

Psychotherapists and other mental health professionals working with twins and their families should appreciate that being a twin can involve unique issues that must be acknowledged. However, it is also the case that twins are not more highly represented in psychological or psychiatric settings than are non-twins. Non-twins may encounter problems of loneliness or isolation that may seem foreign to twins.

General Interest

Female Twin Pole-Vaulters

Identical twins Lexi and Tori Weeks are top students, cheerleaders, and record-holding pole-vaulters (Binder, 2015; Longman, 2015). The twins, who are 5 feet, 6 inches tall, attend Cabot High School in Cabot, Arkansas. Their athletic talents are closely matched — Lexi ended the 2014 season as the state champion and record-holder with a jump of 14 feet. Her twin sister Tori finished 9 inches behind.

The twins began the sport of pole-vaulting at age 12 following 8 years of gymnastics experience. Their pole-vaulting skills are closely matched, but there are differences. Tori shows better 'swing' and a better vertical position, while Lexi is slightly faster on the runway and has a higher grip on the pole. The twins began the 2015 season with identical jumps of 14 feet, ½ inch. Lexi won the competition, but they tied for number four all-time indoors. Then, on February 21, 2015 Lexi became the national women's high school record holder, having scaled the bar successfully at 14 feet, ¾ inches (Stevenson, 2015).

Like other athletic pairs, these twins show remarkable pleasure and pride in each other's accomplishments. Commenting on Tori's successful jump at 14 feet, ½ inch, Lexi said, 'I was so excited for her when she made that . . . because I have been ahead of her. I might have been more excited for her than she was' (Binder, 2015).

Longest Twin Birth Interval

Twins, Amy and Katie Elliot were born apart at 87 days, longer than any other pair on record (Bennett-Smith, 2013; Inquisitur, 2015). The twins, who come from Waterford, Ireland, were born at the Waterford Regional Hospital. Amy

was born on June 1, 2012 when her mother experienced severe pain at 23 weeks into the pregnancy. The twins are currently healthy, although there were some initial concerns. Amy was four months premature and weighed a little over a pound. The twins' mother, Maria Jones-Elliott, was induced in her 36th week and Katie was born on August 27.

Prior to the Elliot twins, Hannah and Eric Lynn from Huntingdon, Pennsylvania were noteworthy for their 84-day birth interval (Hester, 1996).

Pair of Franco-Cuban Vocalists

Twins Lisa-Kaindé and Naomi Diaz are the musicians and singers known as Ibeyi (Finding a balance, 2015). Lisa-Kaindé writes the songs, sings and plays piano, while Naomi sings backup and plays Cajan and Bata drum. The twins sing in English and Yoruba, with a little French added in. They appear to be identical from photographs, but that has not been confirmed. Their music was released on February 17, 2015 by XL Recordings. The twins live together, but have never attended the same school and have different sets of friends.

The twins' father Angá Diaz (now deceased) was a percussionist who played with the Buena Vista Social Club in Havana, Cuba. The twins, who were born in Paris, spend time in Cuba, but also learned Yoruba chants while growing up. Their background explains the mix of language and culture in their work. They dedicated their album to their older sister, who passed away in 2013.

Croatian Twin Models

Most identical twins get along extremely well, but there are exceptional cases (Croatian model arrested, 2015). Female identical twins from Croatia, Sara and Dajana Grkovic, are stunning 22-year-old models. Jealousy over a man that both of them liked led Sara to stab her sister, who was developing a closer relationship with this individual. Sara now faces a murder charge. Injuries to Dajana's chest and thigh required extended hospitalization, but her condition has stabilized.

A number of years ago I was a guest on the *Oprah Winfrey Show* for a segment concerning twins who disliked each other. The incidents, which involved both identical and fraternal twins, were quite shocking, involving bodily and/or psychological harm inflicted on one twin by the other. I simply commented that these were highly atypical cases and that parents should take comfort in the fact that most twins get along well. I could not help but think that if both twins agreed to appear on the show then there had to be some meaningful degree of cooperation and behavioral connection between them.

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