

## ‘Bridging Science and Technology’



The American Association of Orthodontists' 115th Annual Session will take place May 15–19 in San Francisco. Photo/www.freeimages.com

### AAO to host its 115th annual session in San Francisco

By Sierra Rendon, Managing Editor

What better site for a meeting focused on “Bridging Science and Technology” than San Francisco, the site of the historic Golden Gate Bridge and just north of Silicon Valley?

The American Association of Orthodontists will host its 115th session at the famed Moscone Center in San Francisco from May 15-19.

AAO President Robert E. Varner, DMD, said the meeting's education program will “encompass the latest information on every aspect of technology applicable to orthodontic clinical care and practice management, while also delving deeply into clinical topics and scientific advances on the horizon.”

At the event, more than 100 doctors’

#### CASE STUDY

### ClearCorrect treatment of crowding and constricted archforms

By Dr. Mark J. Bentele

A 21-year-old male presented with a chief complaint of relapse of adolescent orthodontic treatment. He expressed an interest in clear aligner therapy for alignment and improved esthetics. Past medical history was unremarkable other than he was a nasal breather.

The examination showed a slightly convex profile with a long face. Lips were competent but the lower lip was slightly everted due to the position of the maxillary incisor (Figs. 1–3). TMJs and facial musculature were asymptomatic. CR-CO slide was within normal limits. Periodontal examination showed no recession and adequate attached tissue, with a PSR score of 1 with slight bleeding on probing upper right.

The patient had good oral hygiene. Third molars were absent, with moderate restorative history on teeth Nos. 2, 3, 4, 5, 13, 14, 15 and 30 but no active caries. Areas of enamel hypoplasia and cervical decalcification were present.

The records taken included: photographs, a panoramic radiograph, centric occlusion bite registration and PVS impressions. The maxillary arch exhibited a mixture of crowding and spacing with a net of 0 mm arch length discrepancy. The mandibular arch exhibited 2.5 mm arch length discrepancy. The maxillary midline was right 1 mm and the mandibular midline left 1 mm.

The patient had a Class I right, Class I left (1 mm discrepancy) molar relationship, with a Class I right, end-on Class II left canine relationship. Transverse maxillary/mandibular archforms were narrow. The patient had an overjet of 4 mm and an overbite of 4 mm as well (Figs. 4-9).

A ClearCorrect Unlimited Case was prescribed for treatment. Upon case submission, an improved upper midline was requested, along with an improved lower midline, which was limited due to crowding. We requested an idealized overjet, improved

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# The paradox of quality treatment

By Dennis J. Tartakow,  
DMD, MEd, EdD, PhD, Editor in Chief

Doctors are educated to diagnose and treat health problems. Within these margins, most clinicians fulfill this role with patients very successfully. The traditional role of the doctor is carried out within a broader, historical, political and social context – where the diagnosis

and treatment of system failures are as important as clinical interactions with individual patients. A doctor's ability to improve health outcomes in an increasingly complex milieu will always be challenged, and the doctor must be willing to understand and influence this wider framework. Such understanding can be achieved by engaging in the emerging

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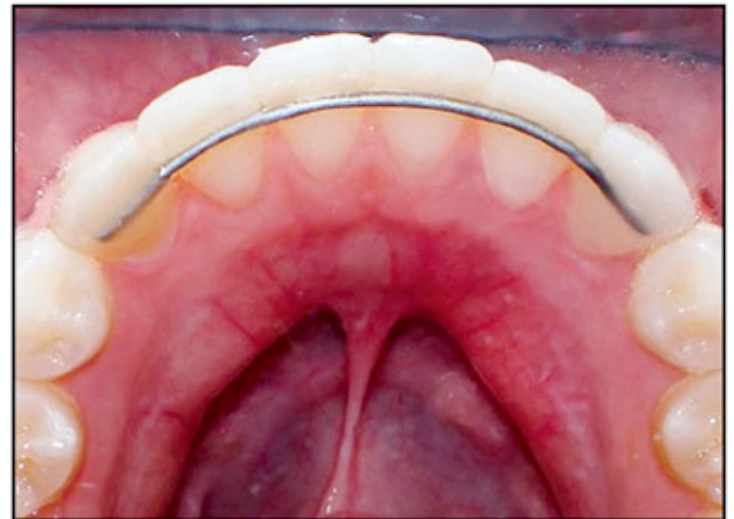
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Fig. 1  
(Photos/Provided by Dr. Mark J. Bentele)



Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6



Fig. 7



Fig. 8



Fig. 9



Fig. 10



Fig. 11



Fig. 12



Fig. 13

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overbite and improvement of the constricted arch forms. Molar relationships were to be maintained, and proclination of the mandibular incisors was requested. We requested #11 be distalized into a proper Class I relationship. In addition, we requested all spaces be closed and the teeth aligned.

ClearCorrect presented a treatment setup that estimated six phases of treatment or 24 sets of aligners. ClearCorrect ships its aligners in phases, each of which contains four sets of aligners. This makes for a flexible system and allows changes to be made mid-treatment, with no added cost to the office.

At the same time the treatment setup was received, a set of starter aligners was delivered to the patient, which fit well. The starter aligners help ease the patient into treatment before the first phase of aligners arrive. After review, the treatment setup was approved. The patient was instructed to wear each set of aligners, including his starter aligners, for three weeks and at least 22 hours a day.

Phase 1 was received from ClearCorrect, and the patient was given the first set of aligners at our office. The second set of aligners was given to the patient to be changed at home after three weeks. The patient returned to the office after six weeks to receive the third and fourth sets of aligners. During this first phase of treatment, facial translation of premolars and canines occurred.

When Phase 2 was received from ClearCorrect, engagers were placed on teeth Nos. 7, 10, 22 and 27, and 0.3 mm IPR was performed on the mesial/distal #27, using Raintree diamond discs and followed with Duraphat fluoride varnish. Henry Schein Natural Elegance Microhybrid composite was used for the engagers, as well as Natural Elegance Flowable and Natural Elegance Universal Bond.

The engager template was cut so that it only extended a tooth and a half past the engager on either side, allowing the template to fully seat while also making the template easier to remove. A stellite, a plastic filling instrument purchased from Henry Schein (Fig. 10), was used to peel the template off laterally, rather than pulling the template off vertically, which could potentially dislodge the newly placed engager. After placement of the engagers was completed, the patient received his fifth set of aligners and was also given his sixth set to take home. Primarily facial translation and rotation of incisors would occur during this phase of treatment.

The patient continued to come in every six weeks to receive new sets of aligners. During phase three, a contact check on tooth #27 was performed to ensure patient compliance and to check tracking of the teeth. Alignment of teeth Nos. 22 and 23 was completed during phase four, which completed the patient's total treatment. Patient compliance was excellent throughout treatment, and there were no problems tracking or fitting of subsequent trays. The patient progressed more quickly than originally treatment planned and only needed four phases (16 sets of aligners) as opposed to six phases (24 sets of aligners).

At the end of treatment, all objectives

▶ See CLEAR, page 6

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Fig. 14



Fig. 15



Fig. 16



Fig. 17



Fig. 18

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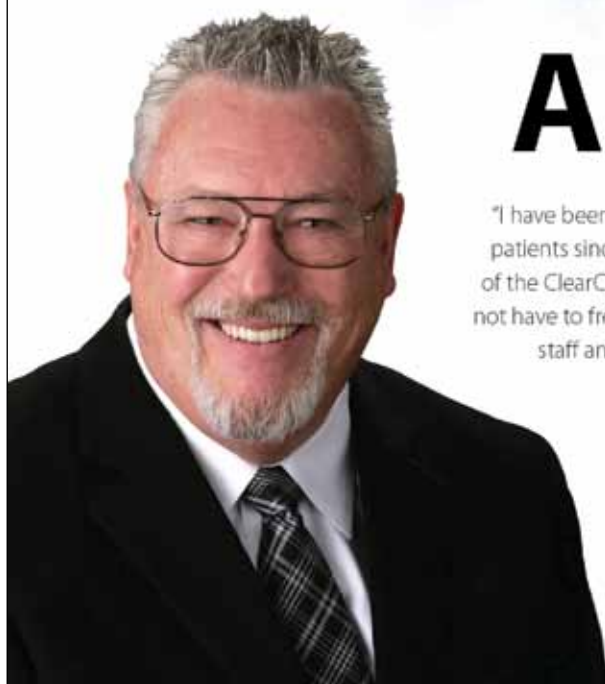
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"I have been using clear aligners to treat a broad spectrum of my orthodontic patients since 2000 and have grown to appreciate the quality and capability of the ClearCorrect system: the online portal is simple and easy to utilize; I do not have to frequently return setups for revision; the aligners always fit well; the staff and support personnel are responsive and pleasant to work with when needed. For the best ROI and 'bottom line', ClearCorrect is my choice for a comprehensive clear aligner system."

—Dr. Ken Fischer, orthodontist.

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◀ CLEAR, Page 4

were accomplished (see Figs. 11-18).

The patient was referred back to his general dentist, Dr. Steve Carlson of Vista Grande Dental Center, for anterior esthetic restorative treatment of tooth #8. Clearfil SE Bond was used, utilizing a layered technique with shade A1, Herculite and Ivoclar Vivadent Tetric EvoFlow.

Due to change in shape of tooth #8, an in-house Essix aligner was fabricated for the maxillary arch, and the ClearCorrect supplied retainer was inserted for the mandibular arch. The patient was instructed to wear the retainers at nighttime indefinitely. We scheduled a follow-up appointment with the patient at one month, seven months and 19 months after treatment. The patient was very happy with the results.

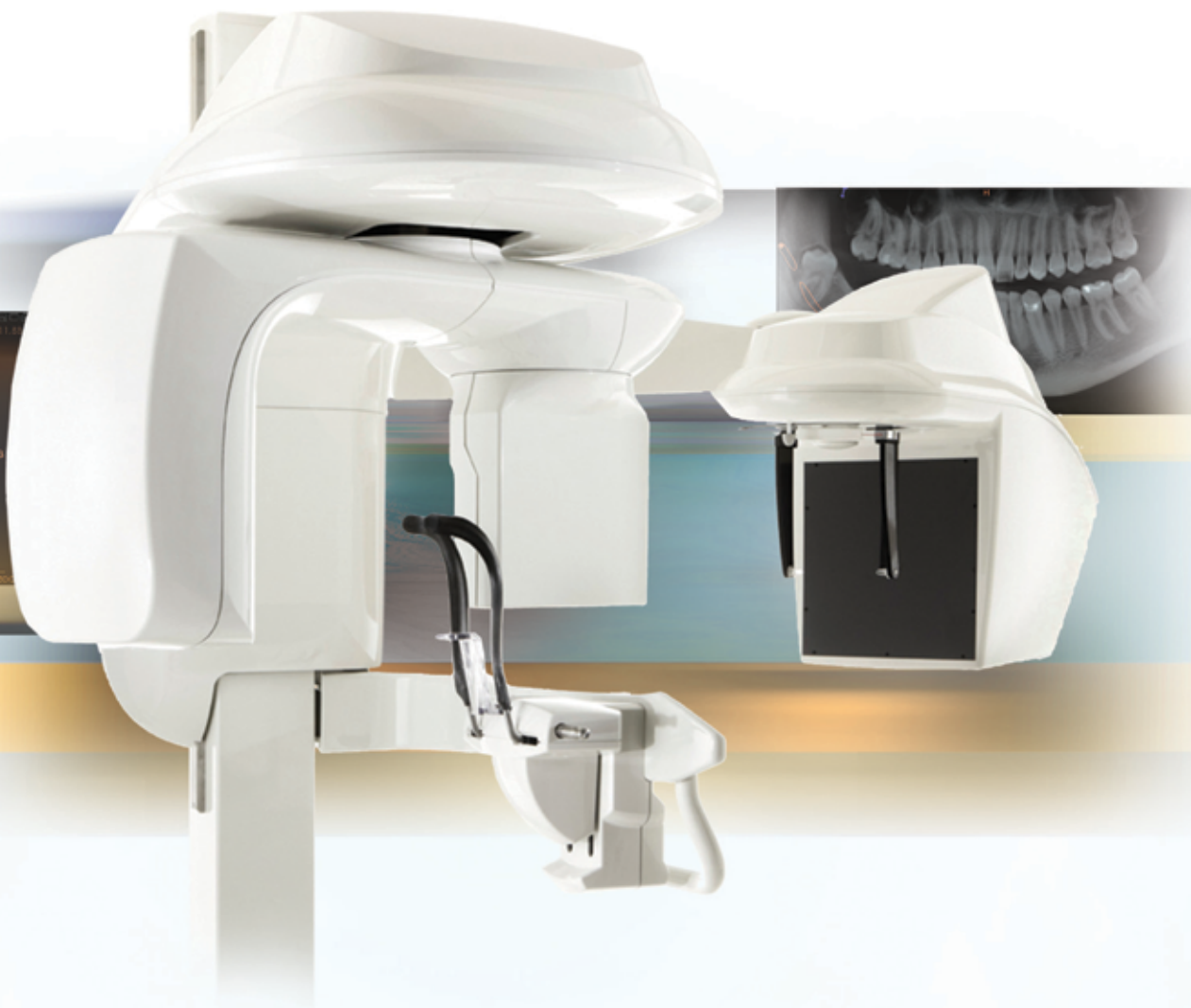
The patient's results truly speak for themselves, while also speaking to the effectiveness of clear aligner therapy.

### About the author

**DR. MARK J. BENTELE** received his DDS from the University of Missouri, Kansas City School of Dentistry and graduated from an Air Force hospital General Practice Residency. He completed a three-year orthodontic residency at the Ohio State University College of Dentistry, receiving his certificate in orthodontics and master's in science. He completed his Air Force



career as chief of orthodontics, U.S. Air Force Academy, where he was also a member of a dental implant team, the craniofacial deformities board and a faculty member for the advanced education in general dentistry program. He retired from the Air Force as a colonel in 2007 and has been in private practice in Colorado Springs since then. Bentele is a member of the American Dental Association, the Colorado Dental Association, the Colorado Springs Dental Society, the American Association of Orthodontists and the American Cleft Palate Association.



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lectures will focus on numerous clinical and practice-management topics.

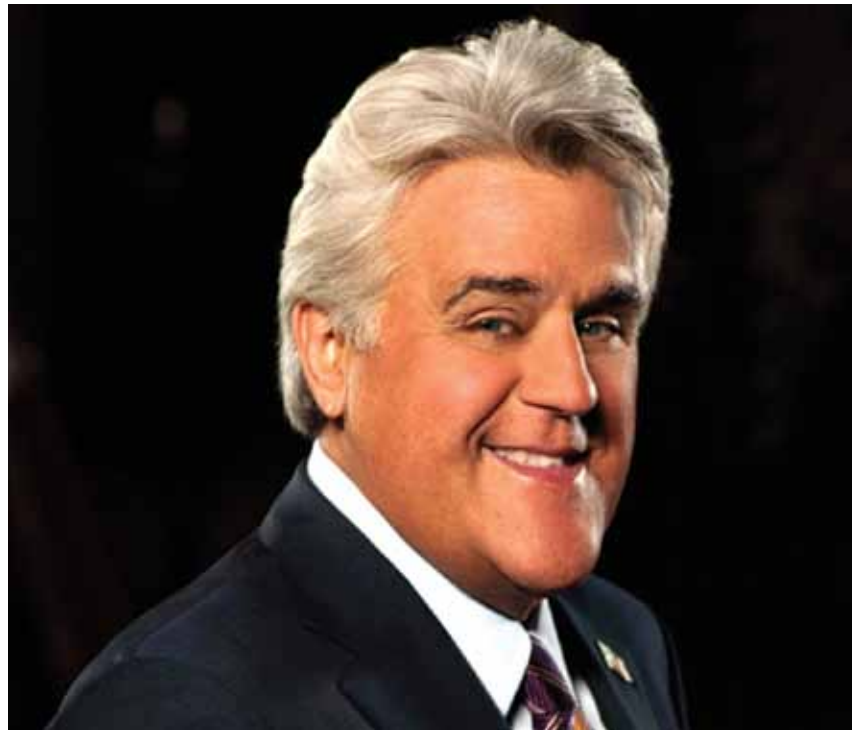
Featured speakers include Dr. Laura Berman, a world-renowned sex and relationship educator and therapist; TV, radio and Internet host; and assistant clinical professor of ob-gyn and psychiatry at the Feinberg School of Medicine at Northwestern University in Chicago.

Berman has helped countless couples build stronger relationships, improve their sex lives and achieve more intimacy through her TV and radio shows, books, columns and website, along with her private practice based in Chicago. She serves on the advisory board for "The Dr. Oz Show" and is a regular guest on The Steve Harvey Show. Her session is "The Passion Prescription."

Sixteen Pacific Rim speakers will lecture on topics such as management of third molars, photobiomodulation and lingual orthodontics using mini-tube appliances (MTAs).

A wide variety of other educational sessions are available, including:

- "Lessons Learned in 35 Years of Treating Obstructive Sleep Apnea" with Harry Legan
- "Efficient Mechanics with TADs to



Jay Leno will be the keynote speaker at the 'Excellence in Orthodontics Awards Ceremony.'

Manage Complex Orthodontic Problems" with Ravindra Nanda

- "Digital Orthodontics: Efficiency and Effectiveness of Tooth Alignment with the SureSmile System"

by Anthony Puntillo

- "Micro-perforations: Indications and Application in Your Daily Orthodontic Practice" with Mani Alikhani
- "Surgery-facilitated Orthodontic

Tooth Movement: What is the Evidence and How Does it Work?" by Yijin Ren

On top of all of the learning opportunities, this year's AAO session is also jam-packed with a bevy of interactive and social events attendees won't want to miss. Some of these include:

- Opening ceremonies on Saturday, May 16, from 5-7 p.m. featuring legendary rock 'n' roll band Huey Lewis and the News. Tickets are \$25.

- 5K Fun Run and Walk on Sunday, May 17, from 6:30-8 a.m. \$25 per person and includes T-shirt.

- Excellence in Orthodontics Award Ceremony, noon to 2:15 p.m. Sunday, May 17, at the Moscone Center. It's \$60 per ticket and includes lunch (or \$15 ticket for awards/speaker, not including lunch). Keynote speaker Jay Leno is sure to make this a fun and exciting event.

Finally, attendees will definitely want to check out the 300,000-square-foot AAO Exhibit Hall featuring more than 300 exhibitors all gathered under one roof. If you have questions about a new product or want to learn what technology is best for your practice, you will want to save some time to browse the hall.

To learn more about the AAO's Annual Session, visit [www.aaoinfo.org](http://www.aaoinfo.org) or download the AAO mobile app on your phone.

## Patrick Corbin teams up with the AAO to promote National Facial Protection Month

Throughout April, the American Association of Orthodontists (AAO) partnered with Arizona's starting pitcher, Patrick Corbin, to promote National Facial Protection Month.

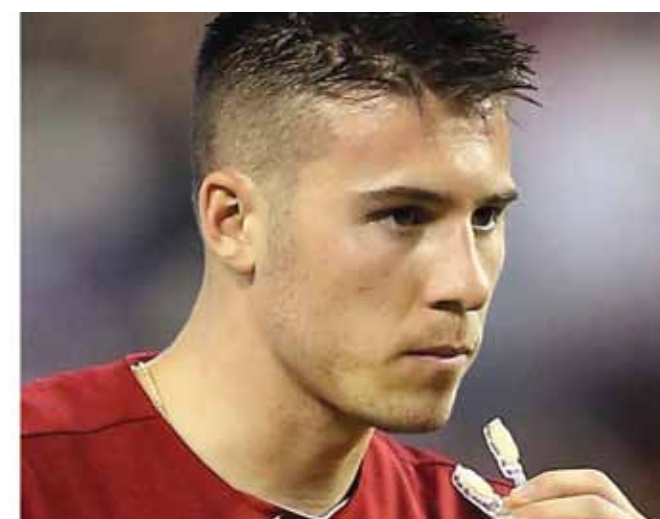
An all-star example of safety on the field, Corbin consistently wears a mouthguard for his position on the pitching mound and while at bat.

Corbin is dedicated to facial protection, and created a radio public service campaign to encourage athletes of all ages to cover their bases when it comes to protecting their mouth, teeth and face. His goal is to remind players of the importance of wearing a mouth guard and the serious repercussions of an injury to the teeth.

National Facial Protection Month is an annual initiative that reminds athletes to play it safe during recreational and organized sports by wearing a mouth guard and appropriate safety gear at every practice and every game.

Corbin, all-star starting pitcher for Arizona, is a prime example of a professional athlete who takes protecting his teeth seriously. When baseballs can be hit at speeds of more than 100 mph, Corbin protects himself on the pitching mound by always wearing a mouth guard.

"Wearing a mouth guard on the field is just as important as any other protective gear," Corbin said. "In baseball, a line drive can come at you when you least ex-



Pitcher Patrick Corbin is helping AAO to promote National Facial Protection Month.

Photo/AAO

pect it, and it's crucial to be protected at all times."

### About National Facial Protection Month

National Facial Protection Month is sponsored annually during the month of April by the American Association of Orthodontists ([www.mylifemysmile.org](http://www.mylifemysmile.org)), the American Association of Oral and Maxillofacial Surgeons ([www.aaoms.org](http://www.aaoms.org)), the American Academy of Pediatric Dentistry ([www.mychildrensteeth.org](http://www.mychildrensteeth.org)), the Academy for Sports Dentistry ([www.academyforsportsdentistry.org](http://www.academyforsportsdentistry.org)) and the American Dental Association ([www.mouthhealthy.org](http://www.mouthhealthy.org)).

### About the American Association of Orthodontists

Founded in 1900, the American Association of Orthodontists (AAO) is the world's oldest and largest dental specialty organization.

It represents 17,000 orthodontist members throughout the United States, Canada and abroad. The AAO encourages and sponsors key research to enable its members to provide the highest quality of care to patients.

For more information, visit [www.mylifemysmile.org](http://www.mylifemysmile.org).

(Source: American Association of Orthodontists)

◀ PARADOX, Page 2

science of quality improvement, where the approach to improve quality and assess this attitude has brought us, in spite of contradictions and paradoxes.

A *paradox* is a statement that apparently contradicts itself and yet might be true. Most logical paradoxes are known to be invalid arguments but are still valuable in promoting critical thinking. More commonly, the word paradox often refers to statements that are unexpected or ironic, such as "...the paradox that standing is more tiring than walking."

Examples of a *paradoxical effect or reaction* might be when: (1) people with unrelenting or ominous disabilities report experiencing good or excellent quality of life but to many outside observers, these individuals seem to live an undesirable daily existence; (2) effects of a certain drug are opposite to what is normally expected, such as allergy or even anaphylaxis; (3) a pain-relief medication causes increased rather than decreased pain; (4) a surgical procedure produces a scar, such as a keloid rather than perfect incision closure; and (5) an orthodontist expects his or her treatment to produce a certain reaction or tooth movement, but the resultant outcome is contrary to what is expected, such as relapse or resorption.

These are the aberrant, abnormal consequences rather than the normal, expected results ... or rather the paradoxes of quality of treatment, they are the "scars" of medicine, dentistry and orthodontics. Can they be predicted? Does it mean that the treatment was improper? Sometimes yes but most times no. It is up to the clinician to diagnose properly and even then, poor results can occur in spite of good judgment, proper treatment and excellent diagnosis. Unfortunately, our profession is not an exact science; this is not an excuse, but a fact!



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