The allure of the irrational
By Nikolaus Nützel

The assumption underlying modern economics is that the behavior of economic agents is always motivated by rational self-interest. As Martin Kocher’s experiments demonstrate, on closer examination, the notion turns out to be untenable.

For the complete article, see www.en.lmu.de/news/insightlmu/2014/01_01.pdf
Speaking to the World  
by Kerstin Maierhöfer

If you want to study texts written in Montezuma’s Náhuatl, chat with a Frenchman about his country and compatriots, or take part in an archaeological survey in Turkey, you need to know the relevant language. Every semester, LMU students can choose from over 160 language courses.

Barbara Stein gazes at the whiteboard for a while, picks up her pen and – beginning on the right margin – copies the long drawn-out strokes, arcs, dashes and dots that Wilfried Baumgarten, a language teacher at LMU, has written. On the board are the names of various Arabic-speaking countries, from Algeria to Syria. This is the sixth lesson in the vacation course in Arabic that Barbara Stein, who is in her sixth semester of Ethnology at LMU, is taking. By the end of the course, in a few weeks, Barbara will not only be familiar with Arabic script, she will be able to carry on simple conversations in Arabic, and will have learned about the etiquette governing its everyday use.

Access to 250 million people

Every semester, some 5,000 students like her apply for a place in one of the over 160 language courses available at LMU. These range from Albanian to English for Medical Purposes, from French to Persian, from Chinese to Russian – and are open to all registered LMU students without charge. Moreover, the LMU Language Center coordinates courses in even lesser known and exotic tongues, such as Uzbek, Quechua, or Kurmanji-Kurdish.

“We offer a broad spectrum of languages,” says Bettina Raaf, managing director of the Center. “And students take our courses for many different reasons. Some degree courses have made proficiency in a specific language compulsory.

Other learners who wish to spend a semester abroad would like to improve their language skills beforehand. There are also those students who have a cultural affiliation with a particular country, either because they find it personally fascinating or have relatives there.” Barbara Stein is learning Arabic simply because it interests her. “What motivates me most is the fact that the course provides access to a language community of 250 million people,” she says.

A variety of formats

The student sitting next to Barbara is Tze-Hua Wang. She comes from Taiwan, and is in her fourth semester of Scandinavian Studies at LMU. In addition to her native language, she already speaks German and English, and is learning Danish at LMU as part of her major course of study. “I wanted to get to know another language family,” she says. Like Barbara, she finds Arabic script quite difficult. “But instead of having to memorize 5,000 characters as in Chinese, here I have to learn how to manipulate only 28 signs. That makes it easier for me.” But she appreciates the teacher’s constant encouragement and his insistence that, while practice makes perfect, it takes time to get it right: You can only learn a language if you are willing to make mistakes.

Barbara Stein and Tze-Hua Wang and their 30 or so classmates meet to practice their Arabic with Wilfried Baumgarten at set times over a period of four weeks. But the Language Center also offers so-called Blended-Learning Courses. For instance, students can take computer-assisted language courses in the Multimedia Language Laboratory, or they can use an online learning platform alongside their courses. There is even an English and Spanish course specifically designed for self-instruction. Here, students are provided with an individualized learning schedule, and attend fortnightly sessions with a language coach for conversation practice and assessment of their progress. “This sort of format made it possible, for instance, for a deaf student to improve her knowledge of English before embarking on her Master’s degree,” Bettina Raaf explains. “Student and coach can communicate via computer, chat with one another, and discuss and clarify difficult points in the written exercises.”

When they finish the intensive course they are taking during this vacation, Barbara and Tze-Hua plan to enroll in the advanced course in Arabic. And perhaps they will visit some of the countries whose names they have so carefully copied into their exercise books.

Translation: Paul Hardy
Interrogating the bones
by Clemens Grosse

The 50,000 human bone finds in the Bavarian State Collection for Anthropology and Palaeoanatomy in Munich, of which LMU professor Gisela Grupe is Director, tell tales of more 10,000 years of human history.

LMU anthropologist Professor Gisela Grupe is the current Director of the Bavarian State Collection for Anthropology and Palaeoanatomy in Munich (SAPM). She and her colleagues tease out the secrets locked in human bones. “Our studies extend back to the time, some 10,000 years ago, when humans began to form settled communities that made use of defined burial grounds,” she says. The researchers employ a variety of approaches to discover how people lived in those far-off times, what they ate, what they died of, what the climate was like, and how they altered their environment. They analyze the DNA that survives in skeletal remains, use histological methods to probe bone microstructure, and study the stable isotopes of elements like strontium and carbon preserved in the bones. But first they take a good look at the material in question, for a trained eye can often discern details that allow one to draw revealing inferences.

“That is clearly an animal bone, probably from a bovid,” says Dr. George McGlynn, as he sorts through cremated human and animal bone fragments recovered from a Roman cemetery near Günzburg. The smooth surface of the cattle bone differs from that of the human bones, which bear fine striations, he explains. “One needs lots of training and years of experience before one can identify and classify skeletal remains like these,” says the American anthropologist, who is a member of the research staff at the SAPM. These bones – some burnt, others untouched by fire – and countless others belong to the mass of material now in storage in the basement of No. 41 Theresienstrasse, which belongs to LMU. Packed in boxes that are stacked on long ranks of shelves, the assemblage includes remains dating from thousands of years ago – a huge ossuary, and yet only a small part of the entire collection, which comprises over 50,000 finds.

Internationally recognized

Most of the research here focuses on the historical finds, which provide the anthropologists with important information and suggestive hints that shed light on cultural evolution. “For we are interested not only in the physical changes that accompanied the transition to a settled way of life, but also in the resulting alterations in mentalities and social interactions, which are of particular interest to experts in cultural studies,” as Grupe emphasizes.

The work here centers on Bavaria, but researchers also participate in international collaborative projects. For example, the SAPM is responsible for the European Module of the Global History of Health Project based at Ohio State University (Columbus, USA), whose aim is to chart the development of human health in Europe from the Late Paleolithic up until the early 20th century.

Meanwhile George McGlynn is preparing for a trip to Mongolia. “It’s virtually unexplored territory,” he says, and he’s looking forward to the “marvelous opportunity to discover and study the contents of undisturbed graves”. The area is so thinly populated that ancient burial sites are likely to have remained intact.

However, while they normally focus on historical and prehistorical material, the anthropologists are sometimes confronted with more recent finds – by the police. They then cooperate closely with LMU’s Institute of Forensic Medicine, though their work has little in common with what one sees in TV series like “Autopsy” or “Bones”, in which anthropologists solve criminal cases. “The responsibilities are clearly defined in Germany: The forensics people come first. Only if further expertise is required, when fragments of fabric or bone are extremely small, do we come into play,” says McGlynn. He also has some advice for would-be students whose interest in anthropology was sparked by the TV programs: “Go to acting school instead.”

Translation: Paul Hardy

www.sapm.mwn.de
Human Biology

The marks that mold us
by Martin Thurau

The genetic code is not everything: Heinrich Leonhardt, Professor of Human Biology at LMU, is currently dissecting the epigenetic mechanisms that determine which genes are activated or repressed in each of the diverse cell types that make up multicellular organisms.

For the complete article, see www.en.lmu.de/news/insightlmu/2014/01_02.pdf

Dyslexia

The right recipes

A recently published meta-analysis of the research literature provides the first evidence-based assessment of the relative effectiveness of a range of approaches to treating dyslexia. A research group led by Professor Gerd Schulte-Körne, Director of the Clinic of Child and Adolescent Psychiatry at LMU Munich, has systematically evaluated data from published randomized controlled treatment studies of dyslexia.

The term dyslexia refers to a specific difficulty in learning to read and spell. It affects 5-10% of school children and although it is one of the most common learning disorders of childhood and adolescence, it also affects adults. Indeed, the condition is often diagnosed relatively late. “Up to 40% of children who show signs of dyslexia also have psychological problems, which often result from discrimination provoked by their learning difficulties”, says Prof. Schulte-Körne.

More than 20 different treatment methods have been developed which purport to help dyslexic children. “But in fact very few of them have any real effect,” says Katharina Galuschka, who carried out the meta-analysis. “Systematic training of the very basic process of relating the sound of a word to its orthographic form turns out to be particularly important.” The new study also shows that long-term interventions are significantly more effective than short-term training measures. In addition, the study reveals that many popular methods which concentrate on single factors such as enhancing visual scanning of text, or improving auditory perception, are ineffective. Cognition-enhancing medication or the use of tinted lenses also appear to be unable to improve the reading ability of dyslexic subjects.

Prof. Schulte-Körne and his research group are now coordinating a set of medical guidelines for the treatment of dyslexia in Germany, due to be released shortly.

Microbiology

Genetic transplantation of an intracellular compass

Magnetosensitive bacteria make use of Earth’s magnetic field by means of unique organelles called magnetosomes, which consist of minute magnetite crystals that act as a miniature compass needle. As nanoparticles, magnetosomes are also of considerable biotechnological interest – for applications in biomedical imaging, for instance. “However, naturally occurring magnetic bacteria are extremely difficult to cultivate”, says LMU microbiologist Dirk Schüler. This hurdle could be bypassed by transferring the genetic information for magnetosome formation into a host organism that is easier to cultivate.

“Technically this is quite challenging, because the magnetosome is one of the most intricate structures known in the bacterial world and at least 30 genes participate in its assembly”, says Schüler. But he and his group have now accomplished the task. In collaboration with colleagues from Saarbrücken, the scientists introduced all known magnetosome genes of the magnetic bacterium Magnetospirillum gryphiswaldense into the photosynthetic microorganism Rhodospirillum rubrum.

“R. rubrum cells were then indeed capable of forming magnetic crystals like those found in M. gryphiswaldense. These findings for the first time demonstrate that the transplantation of such a complex biosynthetic pathway into a different host organism is possible,” Schüler points out. “Even more important is the fact that we can now use targeted manipulation of the transplanted genes to further improve the properties of the biogenic nanomagnets”. It might even become possible to introduce the blueprint for magnetosome construction into the cells of higher organisms – making them magnetosensitive. This would open up a wide range of potential applications, especially in basic research.
Yasar Aratemür (35) belongs to the Zaza, an ethnic group that lives in Eastern Anatolia (Turkey) and speaks a Northwest Iranian language. As a child he was cared for by his mother, since his father was already working in Germany when Yasar was born. At home he spoke Zazaki, and learned to speak Turkish only when he was sent to school in the province of Bingöl. His mother subsequently moved to Germany and, in 1994, before he had finished his schooling, Yasar left Turkey to join his parents there. At that time there were very few Zaza in Germany; today it is estimated that some 150,000 of them live here.

Soon after his arrival, Yasar enrolled in a training course offered by the Kolpingwerk, a Catholic social organization, in the diocese of Augsburg. “In addition to teaching me technical skills, the course also enabled me to learn German,” he says. He began his vocational training in 1996, when he was 18, qualifying as a track-layer in 1999. His training record was so impressive that he was immediately employed by German Railways. But he had higher ambitions, and he worked his way up. He trained as a fitter in Augsburg with a local manufacturer of industrial robots, then got a job as a machine operator with a supplier of automotive parts in 2002. He subsequently qualified as a train driver in Berlin, and by 2007 he had become an instructor. A year later, on completing a correspondence course, he was a certified Master of Rail Operations.

Having taken and passed the Abitur exam in Hamburg, Yasar Aratemür enrolled in the Iranian Studies program at the local university. “In order to pay my way through university, I had to keep my job as an engine driver,” he explains. Indeed, he continues to combine the two responsibilities – no easy task for a married man with three children. As he learned more about the linguistic history of Iran, he realized how little was known about his native language, Zazaki. So he set up a “Zazaki League”, wrote a textbook for children in Zazaki, and worked as a journalist for the erstwhile Zazaki publications “Çime” and “Zazaki”.

“I want to preserve my native language”

In 2011 he registered for the Bachelor’s program in Near and Middle Eastern Studies at LMU, focusing on Iranian and Turkic Studies. He has now embarked on a Master’s program in Cultural and Cognitive Linguistics.

In light of his familial responsibilities and the extra burdens imposed by his studies, Aratemür’s drive is astonishing. But the reason for his dedication is simply stated: “My native language is in danger of extinction – that is why I wanted to do something to help preserve it and decided to study here,” he says. He wants to investigate its roots and development, and document the living language before it is too late.

Together with 69 other students from various Faculties, Yasar received a Germany Scholarship for his academic achievements and his cultural and social contributions to his community at a ceremony held at the end of January. The awards were presented by Professor Martin Wirsing, Vice-Dean for Teaching and Studies at LMU. The monthly stipend of 300 euros is funded in equal parts by the Federal Government and by private sponsors, including firms, foundations, associations and alumni.

Yasar is also proficient in English, Farsi and Pashto, but his dream is to ensure the survival of his native language, and the scholarship will help him towards this goal. For that, he is very grateful – as no doubt are the 3-4 million Zaza who live in Turkey.

Translation: Paul Hardy

www.lmu.de/deutschlandstipendium
LMU invites applications for 10 Research Fellowships

As part of the LMU Academic Career Program, LMU Munich will award 10 Research Fellowships to outstanding young academics from all over the world. Candidates from all fields of research who have completed their doctoral studies with outstanding results within the last three years may apply. The fellowships are tenable for two years. An extension of two years may be granted upon a positive academic evaluation. The fellowships should commence between October 1, 2014 and March 1, 2015. Closing date for applications is 1 June 2014. For all information regarding your application please consult: www.lmu.de/excellent/research-fellowships

Famous five for LMU student at the 2014 Paralympics

The Paralympics 2014 in Sochi were undoubtedly Anna Schaffelhuber’s Games. By winning no fewer than five gold medals, the LMU student has pulled off a feat which has few equals in the history of the Paralympics. The 21-year-old monoski star made a clean sweep of the five alpine races on the program. After having been named as “Disabled Sportswoman of the Year 2013”, Anna Schaffelhuber had set her sights on winning at least one gold medal in Sochi. When Anna Schaffelhuber is not on the ski-slopes, she is hard at work at LMU, where she studies Law. Her professional goal is to become a public prosecutor. Although her sporting career is facilitated by LMU’s status as an Official Partner of the Olympic Training Center in Bavaria, it is still difficult to reconcile the demands of top-level sports – especially winter sports – with those of university studies. She is always on the go, on her way to a competition or another arduous training session. That she never lets her studies suffer is a tribute not only to her ambition, but also to her strong sense of self-reliance.

THE Reputation Ranking: LMU is the leading university in Germany

In the latest edition of the Times Higher Education World Reputation Rankings 2014, LMU is once again rated to be the leading university in Germany. LMU is ranked 46th overall, and takes first place among full-spectrum universities in continental Europe. The Times Higher Education World Reputation Rankings 2014 is based on a worldwide opinion survey carried out among leading academics last year. The contributors were asked to name those institutions which they regarded as world leaders in their own sphere of expertise. In all, 10,536 academics in 133 countries took part in the assessment. www.timeshighereducation.co.uk/world-university-rankings/2014/reputation-ranking

New opportunities for junior researchers

Earlier this year, the Elitenetzwerk Bayern agreed to provide grant support for the International Graduate School “i-Target: Immunotargeting of Cancer” at LMU. This doctoral program focuses on the field of cancer immunotherapy, and has been designed, in cooperation with the University of Erlangen-Nürnberg and the Technical University of Munich (TUM), by Professor Stefan Endres, Head of the Division of Clinical Pharmacology at the LMU Medical Center and Dean of Research for the Medical Faculty. The Elite Network will also fund the Graduate School “Exploring Quantum Matters”, in which LMU is involved. This program is based at the TUM, and deals with topics in quantum physics and quantum simulations. The third program to benefit from the support of the Network is the International Junior Research Group on “Interactions between Light and Matter” at LMU, which will be headed by Dr. Dirk André Deckert (currently at the University of California in Davis). Funding for the Research Group has been approved for 5 years. www.en.lmu.de/scholars/doc_students/doc_programs

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Any questions or comments? insight@lmu.de