

**THE TROUBLE WITH TRANSLATION  
OR  
CAN TECHNOLOGY ANSWER LAW ENFORCEMENT'S  
TRANSLATION PROBLEMS?**

**by**

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**March 2011**

**COMMAND COLLEGE CLASS XLVIII**

The Command College Futures Study Project is a FUTURES study of a particular emerging issue of relevance to law enforcement. Its purpose is NOT to predict the future; rather, to project a variety of possible scenarios useful for strategic planning in anticipation of the emerging landscape facing policing organizations.

This journal article was created using the futures forecasting process of Command College and its outcomes. Defining the future differs from analyzing the past, because it has not yet happened. In this article, methodologies have been used to discern useful alternatives to enhance the success of planners and leaders in their response to a range of possible future environments.

Managing the future means influencing it—creating, constraining and adapting to emerging trends and events in a way that optimizes the opportunities and minimizes the threats of relevance to the profession.

The views and conclusions expressed in the Command College Futures Project and journal article are those of the author, and are not necessarily those of the CA Commission on Peace Officer Standards and Training (POST).

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I remember as a kid growing up in the 1960s marveling at how Captain Kirk and the crew of the Enterprise were able to communicate with the various life forms they encountered when, in reality, we had so many different languages we couldn’t even effectively communicate with other people here on Earth. Kirk and his crew used the “Universal Translator” to bridge the gap and instantly translate one language to another so all could be understood. Can the science fiction of the 1960’s provide us with the answer to one of today’s law enforcement problems: communicating with our citizens who speak no or limited English? Is today’s technology ready to take us where “No one has gone before?”

California is becoming more culturally diverse than ever before in both its urban and rural areas. According to a Migration Policy Institute (MPI) 2009 study, California ranked highest in all 50 states in the number of foreign born immigrants with limited English proficiency (LEP). In the MPI study, limited English proficiency refers to any person age 5 and older who reports to speak English “not at all”, “not well” or “well” on their survey questionnaire. In 2009, almost 60% of California’s total foreign-born population, age 5 and older, were LEP; and nearly 20% of California’s total population is LEP. <sup>1</sup>

What effect is this growing LEP population having on the law enforcement industry? Sir Robert Peel, considered by most to be the father of modern policing, stated as one of his tenets of policing, “Police, at all times, should maintain a relationship with the public that gives reality to the historic tradition that the police are the public and the public are the police; the police being only members of the public who are paid to give full-time attention to duties which are incumbent on every citizen in the interests of community welfare and existence. It is difficult, if not impossible; to maintain a relationship between LE and the County if even the basics of communication are missing.”<sup>2</sup>

Carl R. Peed, Director, U.S. Department of Justice Office of Community Oriented Policing Services stated, “At the core of community policing are partnerships and problem solving, but those essential elements can be hindered if law enforcement is not able to communicate with the growing diverse population in the country. Recognizing the need to improve communications and interaction with limited English proficient individuals is among the next steps in advancing community policing. By developing and implementing a language access plan, law enforcement agencies will be able to strengthen their police community relations, increase trust, and be better positioned to address public safety problems.”<sup>3</sup> But good policing strategies are not the only reason for law enforcement agencies to address the issue of translation for LEP in their communities: it’s also the law.

Title VI of the Civil Rights Act of 1964, provides that no person can be denied benefits or be subjected to discrimination because of his or her race, color, or national origin under any program or activity receiving federal financial assistance.<sup>4</sup> Further

emphasis was placed on this issue in 2000 by an Executive Order issued by President Clinton. Executive Order 13166 directs federal agencies to take reasonable steps to ensure that their programs are accessible to LEP individuals in compliance with Title VI of the Civil Rights Act<sup>5</sup>. Executive Order 13166 also requires that federal agencies ensure recipients of federal financial assistance take reasonable steps to ensure meaningful access for LEP individuals.<sup>6</sup>

Federal assistance can include grants, awards and training provided to state and local government agencies. Agencies affected include state and local police, courts, prisons, juvenile justice agencies and other law enforcement programs.<sup>7</sup> In 2002 the U.S. Department of Justice adopted LEP guidelines for recipient organizations of federal funding. These guidelines discuss factors that agencies must use to assess the need for interpretation assistance for a particular language group or groups.<sup>8</sup> California, like four other states; Minnesota, Maryland, Hawaii and Illinois,<sup>9</sup> established its own law regarding service to the LEP population in 1973. California's Dymally-Alatorre Bilingual Service Act requires state and local public agency programs and services be accessible to limited-English proficient (LEP) persons.<sup>10</sup>

Traditionally, these laws have been directed at urban areas with large populations of LEP person. As immigrant and minority populations continue to migrate to more rural areas, rural law enforcement agencies need to enhance their capacity to both comply with the law and to effectively provide quality law enforcement services without alienating culturally diverse populations in their community.

### **Cultural Diversity Growth in Rural California**

California has continued to grow in population and cultural diversity over the last several decades. In the 2000 census, California's white, non Hispanic population made up a decreasing 41.7% of the state's total population.<sup>11</sup> Currently, one in four California residents were born outside of the United States: More than twice the national average.<sup>12</sup> In 2009, foreign born immigrants made up 26.9% of California's total population and the number is increasing.<sup>13</sup>

In general, U.S. rural communities are experiencing an increase in more diverse ethnic populations than ever before. Technology has provided the ability, and financial pressures have provided the impetus, for many corporations to move their operations to less costly rural locations. And with corporations moving to rural areas, a less expensive workforce has followed.<sup>14</sup> In the rural community of Fairfield, Iowa, for instance, two international telephone services (Telegroup and Global Link) make their home using both an immigrant and local work force.<sup>15</sup>

California has additional trends affecting the cultural diversity of its rural areas. Since the 1970's a steadily increasing number of retirees from sprawling urban and suburban areas are seeking more natural amenities and the growing number of rural retirement destinations.<sup>16</sup> Additionally, California is experiencing an outward migration of young adults from rural California to more urban areas for better education and employment opportunities.<sup>17</sup> This aging of California's rural areas has created a vacuum, opening the doors to an immigrant work force willing to work for low wages in the agricultural and an increasing number of service industry jobs serving retirement communities.<sup>18</sup> These immigrating work forces tend to be of child bearing age, creating even greater numbers of minority ethnic groups.<sup>19</sup> As a result of these migration trends,

California's rural areas are now made up of some of the richest and some of the poorest populations in the country.

The social and economic dichotomy in rural areas throughout the U.S. is presenting a challenge for all government services including the criminal justice system.

- In Greeley, Colorado a rape suspect's confession was quashed by the Colorado Supreme Court when a Greeley police officer inaccurately used his high school Spanish to administer the suspect's Miranda rights. As a result, the confession of the suspect was thrown out.<sup>20</sup> The case was also extended due to difficulty hiring an interpreter who speaks Kanjobal, a Guatemalan language.<sup>21</sup>
- In 2008 in Hamtramck, Michigan, the 2 year old daughter of a Muslim immigrant woman from Bangladesh went missing. The Hamtramck Police Chief reported that both language and cultural barriers interfered with the investigation. A Hamtramck Police Detective, George Voight, told reporters, "A lot of times, the only people we can interview are children, because they're the only ones in the family who speak English."<sup>22</sup>
- In Escondido, California a Vietnamese murder suspect's interrogation was tossed when Escondido Police Department used a jail nurse to assist with a follow-up interrogation of the suspect. Partially through the interrogation the suspect said in Vietnamese, "I want to go back to jail," and "I don't want to say anymore." The statements were not translated and the interrogation continued. The Judge ruled the suspect had invoked his right to silence invalidating the rest of the interrogation. Prosecutors stated the interrogation was "crucial" to their case.<sup>23</sup>

- In Cleveland, Ohio, an attempt to investigate the murder of a Hispanic man was hampered when many of his many friends and family could not speak English and were untrusting of Police. Reverend Mike Freeley, who works with the Hispanic families in the area stated, “You can have a bilingual operator waiting for the call but if the person is a little afraid or unsure you’ve got to have that trust level as well.”<sup>24</sup>
- In Redding, California, officers responded to domestic violence call involving a Hispanic husband and wife and neither spoke English. The officers recruited a bilingual neighbor to help translate. Based on the translation provided, the officers arrested the wife for domestic violence. Later, the Redding Police Department was informed by a local Hispanic Organization that they did not have the correct story. A new investigation by a department bilingual officer determined that the husband was actually the primary aggressor. The husband subsequently arrested and the wife was released from custody.<sup>25</sup>
- In 2008, Jong Yeol Lee was arrested at his home in Virginia on a warrant. Lee is a Korean-speaking permanent U.S. resident with limited English skills. He attempted to communicate with the arresting officers but was unable and was not provided an interpreter. He was released from custody after four days when it was determined his arrest had been a mistake. The Washington D.C. Office of Human Rights performed an investigation into complaint by Lee and found the Metropolitan Police Department to be noncompliant with the D.C. Language Access Act of 2004 requiring District agencies with major public contact to provide interpretation and translation services.<sup>26</sup>

There is a growing need for translation services throughout the criminal justice system. From the first contact with an officer on the street, through the courts and on into the corrections system, the need for accurate, timely and viable translation services is critical to working with increasing number of LEP persons and communities. Current translation methods, though, are insufficient to serve this need.

### **What's The Answer for Rural Agencies?**

Is hiring more bilingual staff or contracting with interpreters the answer to the problem of language translation? According to a recent informal survey by the National Association of Judiciary Interpreters and Translators (NAJIT) there are only about 3,000 certified judicial interpreters in the country, 2,500 of which speak Spanish.<sup>27</sup> Suzan Kern, immigration lawyer at Hunton & Williams LLP and former freelance interpreter, says the shortage partly can be attributed to low pay and the job's high-stress environment. "Most people think of interpretation as just word substitution, but it's so much more than that because you're not translating words, you're translating meaning. It takes a lot of skills to be an interpreter, and that takes training and technique."<sup>28</sup>

Most public safety dispatch centers in California either hire bilingual dispatchers when available or contract with telephone interpreter companies to provide language translation. Telephone interpreter companies can usually provide language translation in over 150 languages 24/7/365. Dispatchers, working with the phone interpreter, can monitor the conversation and translation and as a result, provide adequate dispatch services for the LEP community. However there is still a built in error factor as well as delay when a third party is used for translation. Even with these steps, the most significant gap remains: in-field translation at the point of contact.

As any patrol officer knows, communicating with victims, witnesses and suspects that speak little-to-no English can be both frustrating and debilitating. Police officers cannot perform their duties well when they cannot communicate with the people they serve. When language barriers prevent individuals from reporting a crime or describing a suspect, for example, it becomes that much harder for police to gather evidence or provide protection.<sup>29</sup>

Law enforcement officers in the field have used various methods of translation when working with LEP subjects. Traditionally, officers have used the assistance of other bilingual officers or agency interpreters to assist when available and if the agency is fortunate enough to have such personnel. It is also not uncommon to use family members, friends or neighbors with language proficiency to interpret. This practice has become more and more frowned upon as errors in arrests and prosecutions continue to stack up as a result. Sometimes officers have been left to draw from their high school Spanish or limited department language training. As Michael Jacobson, Director of the Vera Institute of Justice states, “When language barriers prevent immigrants from, say, reporting a crime or describing a suspect, it becomes harder for officers to provide protection or gather evidence. And police often work in high pressure situations where communication needs to happen quickly.”<sup>30</sup>

The use of phone interpretation companies in the field has become more available with technology as many officers now carry cell phones with speakers. Having a cell phone with a speaker enables an officer to monitor the conversations between the translator and subjects in the field. While this method is typically preferred to the use of family, friends or bystanders, it is both cumbersome and provides a higher level of risk to

officers at the scene increasing distractions and reducing situational awareness.

Fortunately, though, technology is maturing to a point where we can consider what used to be only seen in Star Trek.

### **Is Technology the Answer?**

So, can technology build the bridge for effective law enforcement translation? Law enforcement has always used technology of some sort to help accomplish its mission; why not with translation? Currently several law enforcement agencies are testing one-way translation technology originally developed by the Defense Advanced Research Projects Agency (DARPA) and used by the U.S. military.<sup>31</sup>

In 2007, the Los Angeles Police Department bought four Phraselators similar to hand-held translating devices used successfully by the US military in Iran and Afghanistan.<sup>32</sup> The current version of the Phraselator produced by VoxTec International uses MP3 technology to store thousands of prerecorded messages in hundreds of selected languages. The operator can then select the desired phrase on a screen or by voice command. For example, an officer could say, “Show me your driver’s license”, “Keep your hands where I can see them” or “Point to where it hurts”. The English phrase is then re-broadcast in a selected language.<sup>33</sup>

The newest versions of the device allows the operator to record responses from a subject to be translated at a later time. The Phraselator resembles an old style cell phone or heavy duty PalmPilot and costs about \$1200 or \$3200.<sup>34</sup> Several law enforcement agencies are using or testing the Phraselator including the Los Angeles Police Department (LAPD), the Las Vegas Police Department, the Delphi (Indiana) Police

Department and the Clark County Sheriff's Office in Springfield, Ohio.<sup>35</sup> The LAPD has reported that the Phraselator has worked very well for them in crowd control and medical emergency situations.<sup>36</sup>

Another hand-held field translation device being marketed to law enforcement is the ECTACO SpeechGuard PD-4. Similar to the Phraselator, the SpeechGuard PD-4 also stores prerecorded phrases that can be selected from a screen or by voice command. It can easily provide Miranda rights or field sobriety test commands to LEP persons. The cost of the SpeechGuard PD-4 is about \$450.<sup>37</sup>

So what about two-way real-time language translation? It appears to be not as far off as one might think. While accurate voice-to-voice translation isn't likely to be available in the next few years, text-to-text translation in real-time is available now. VoxOx by TelCentris is a free service that allows one person to enter text in one language into any one of four major communications channels – text(SMS), chat (IM), email and select social media networks -- and have it translated to another language instantaneously by the receiver. There have been previous text translation devices, but this system integrates with new and emerging media networks and software to do the translation instantaneously.<sup>38</sup> (cite) Google has also launched text-to-text translation software application for cell phones.<sup>39</sup>

Significant advances in near real-time voice-to-voice translation are in the works. Google has combined ever its improving voice recognition software with automatic (text) translation software technology to produce nearly instantaneous voice translation.<sup>40</sup> It's not quite ready for release, but Google's head of translation services, Franz Och, told the Times Online in February of 2010, "We think speech-to-speech translation should be

practicable and work reasonably well in a few years' time.”<sup>41</sup> The problem with all translation software, though, is the wide variety of voice, accent and pitch that have to be taken into account. Chief Peter Hansen with the Redding Police Department, in his article *Speak Easy: Language translation devices make their law enforcement debut*, reiterates what others have said in warning, “Although word-to-word translation can be achieved through such a device, interpretation of the spoken word remains an important issue. It will be some time before a language translator can properly interpret the subtle nuances of language and the meaning of tone behind words.”<sup>42</sup> However, newer translation software tends to “learn” and adjusts to the operator’s voice with increased use. A second problem with language translation is the use of slang and clipped speech often used in many cultures. There are still many hurdles to overcome, but the future looks promising.

### Conclusion

Rural law enforcement agencies in California are faced with challenge of significant growth in little-English or non-English speaking populations in their jurisdictions. With the help of recently developed translation technologies, the answer to this problem is not too far off. Is it likely that officers in the not too distant future will have hand-held language translators to assist them in field contacts with the LEP communities they serve? I think the answer is likely to be, “Yes”. This future technology will probably reduce the need for phone translation services, expensive court translators, the need to hire bilingual officers and staff and the need to put officers through expensive language training. The cost of this technology will probably be

relatively small as it becomes popular with in the private sector as a cell phone application.

While there are still many hurdles to jump with the acceptance and implementation of this technology, there certainly are incredible possibilities. With a large population having some sort of wireless communication device on their person, and with that number continuing to grow in the future, it is likely law enforcement will find powerful uses for translation technology.

## Footnotes

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- <sup>1</sup> California Fact Sheet. *Migration Information Source* – Language and Education.. Retrieved March 29, 2011, from <http://www.migrationinformation.org/datahub/state.cfm?ID=CA>
- <sup>2</sup> Reith, C. (1948). *A short history of the British police* . London, New York: Oxford Univ. Press.
- <sup>3</sup> Shah, S., Rahman, I., & Khashu, A. (2007) Overcoming language barriers: solutions for law enforcement. Retrieved from <http://www.vera.org/download?file=411/Overcoming%2BLanguage%2BBarriers%2BFINAL.pdf>
- <sup>4</sup> Guidance to Federal Financial Assistance Recipients Regarding Title VI Prohibition Against National Origin Discrimination Affecting Limited English Proficient Persons. (n.d.). *United States Department of Health and Human Services*. Retrieved March 29, 2011, from <http://www.hhs.gov/ocr/civilrights/resources/specialtopics/lep/policyguidancedocument.html>
- <sup>5</sup> Wang, T. (n.d.). Eliminating Language Barriers for LEP Individuals | Grantmakers Concerned with Immigrants and Refugees - GCIR. *Promising Practices from the Public Sector*. Retrieved March 29, 2011, from <http://www.gcir.org/publications/gcirpubs/languagereport>
- <sup>6</sup> Executive Order on Limited English Proficiency. (n.d.). *Welcome to the United States Department of Justice*. Retrieved March 29, 2011, from <http://www.usdoj.gov/crt/cor/Pubs/eolep.htm>
- <sup>7</sup> COPS Office: Limited English Proficiency. (n.d.). *COPS Office: Grants and Resources for Community Policing*. Retrieved March 29, 2011, from <http://www.cops.usdoj.gov/default.asp?Item=1475>
- <sup>8</sup> COPS Office: Limited English Proficiency. (n.d.). *COPS Office: Grants and Resources for Community Policing*. Retrieved March 29, 2011, from <http://www.cops.usdoj.gov/default.asp?Item=1475>
- <sup>9</sup> Wang, T. (n.d.). Eliminating Language Barriers for LEP Individuals | Grantmakers Concerned with Immigrants and Refugees - GCIR. *Promising Practices from the Public Sector*. Retrieved March 29, 2011, from <http://www.gcir.org/publications/gcirpubs/languagereport>
- <sup>10</sup> Limited Access Services for Limited English Proficient Populations - State Personnel Board - spb.ca.gov . (n.d.). *State Personnel Board*. Retrieved March 29, 2011, from [http://www.spb.ca.gov/bilingual/language\\_access\\_lep.htm](http://www.spb.ca.gov/bilingual/language_access_lep.htm)
- <sup>11</sup> California Fact Sheet. *Migration Information Source* – Social & Demographic Characteristics. Retrieved March 29, 2011, from <http://www.migrationinformation.org/datahub/state.cfm?ID=CA>
- <sup>12</sup> 2000 Cal Facts California's Demographics. *California Legislative Analyst's Office*. Retrieved March 29, 2011, from [http://www.lao.ca.gov/2000/calfacts/2000\\_calfacts\\_demographics.html](http://www.lao.ca.gov/2000/calfacts/2000_calfacts_demographics.html)
- <sup>13</sup> California Fact Sheet. *Migration Information Source* – Social & Demographic Characteristics. Retrieved March 29, 2011, from <http://www.migrationinformation.org/datahub/state.cfm?ID=CA>
- <sup>14</sup> Wiesheit, R. A. & Wells, L. E. (1998). *In a rapidly changing world, what lies ahead for law enforcement in rural areas?*. Illinois Criminal Justice Information Authority, 17. Retrieved from <http://www.icjia.state.il.us/public/index.cfm?metaSection=Publications&metapage=CPLsp9803>
- <sup>15</sup> Wiesheit, R. A. & Wells, L. E. (1998). *In a rapidly changing world, what lies ahead for law enforcement in rural areas?*. Illinois Criminal Justice Information Authority, 17. Retrieved from <http://www.icjia.state.il.us/public/index.cfm?metaSection=Publications&metapage=CPLsp9803>

- 
- <sup>16</sup> Kirschner, A., Berry, E. H., Glasgow, N., in Kandel, W., & Brown, D. L. (n.d.). Population change and rural society in the 21<sup>st</sup> century: Changing faces of rural America.
- <sup>17</sup> Kirschner, A., Berry, E. H., Glasgow, N., in Kandel, W., & Brown, D. L. (n.d.). Population change and rural society in the 21<sup>st</sup> century: Changing faces of rural America.
- <sup>18</sup> Kirschner, A., Berry, E. H., Glasgow, N., in Kandel, W., & Brown, D. L. (n.d.). Population change and rural society in the 21<sup>st</sup> century: Changing faces of rural America.
- <sup>19</sup> 2000 Cal Facts California's Demographics. *California Legislative Analyst's Office*. Retrieved March 29, 2011, from [http://www.lao.ca.gov/2000/calfacts/2000\\_calfacts\\_demographics.html](http://www.lao.ca.gov/2000/calfacts/2000_calfacts_demographics.html)
- <sup>20</sup> Sanchez-Traynor, M. (2004, March 20). Woman worries translation mistake will lead to acquittal | Greeley Tribune. *Greeley Colorado | GreeleyTribune.com News*. Retrieved March 29, 2011, from <http://www.greeleytribune.com/article/20040321/NEWS/103210041>
- <sup>21</sup> Sanchez-Traynor, M. (2004, March 20). Woman worries translation mistake will lead to acquittal | Greeley Tribune. *Greeley Colorado | GreeleyTribune.com News*. Retrieved March 29, 2011, from <http://www.greeleytribune.com/article/20040321/NEWS/103210041>
- <sup>22</sup> 2000 Cal Facts California's Demographics. *California Legislative Analyst's Office*. Retrieved March 29, 2011, from [http://www.lao.ca.gov/2000/calfacts/2000\\_calfacts\\_demographics.html](http://www.lao.ca.gov/2000/calfacts/2000_calfacts_demographics.html)
- <sup>23</sup> Figueroa, T. (2005, January 23). Obstacles arise when interrogating non-English speakers . *North County Times - Californian*. Retrieved March 29, 2011, from [http://www.nctimes.com/news/local/article\\_070afe00-ac1a-5a69-b62f-433718f4a377.html](http://www.nctimes.com/news/local/article_070afe00-ac1a-5a69-b62f-433718f4a377.html)
- <sup>24</sup> Print Article: Language Barrier Poses Hurdle In Murder Investigation. (2009, January 26). *WTVC NewsChannel 9: Chattanooga News, Weather, Radar, Sports, Lottery*. Retrieved March 29, 2011, from <http://www.newschannel9.com/common/printer/view.php?db=wtvc&id=975133>
- <sup>25</sup> Hensen, P. (2009, July 1). Speak Easy - Investigation - LawOfficer.com. *Law Enforcement & Police - Police News, Training, Equipment & Law Enforcement Jobs LawOfficer.com*. Retrieved March 29, 2011, from <http://www.lawofficer.com/article/investigation/speak-easy>
- <sup>26</sup> Alfisi, K. (n.d.). Cover Story: Language Barriers to Justice. *The District of Columbia Bar*. Retrieved March 29, 2011, from [http://www.dcbbar.org/for\\_lawyers/resources/publications/washington\\_lawyer/april\\_2009/language\\_barriers.cfm](http://www.dcbbar.org/for_lawyers/resources/publications/washington_lawyer/april_2009/language_barriers.cfm)
- <sup>27</sup> Alfisi, K. (n.d.). Cover Story: Language Barriers to Justice. *The District of Columbia Bar*. Retrieved March 29, 2011, from [http://www.dcbbar.org/for\\_lawyers/resources/publications/washington\\_lawyer/april](http://www.dcbbar.org/for_lawyers/resources/publications/washington_lawyer/april)
- <sup>28</sup> Alfisi, K. (n.d.). Cover Story: Language Barriers to Justice. *The District of Columbia Bar*. Retrieved March 29, 2011, from [http://www.dcbbar.org/for\\_lawyers/resources/publications/washington\\_lawyer/april](http://www.dcbbar.org/for_lawyers/resources/publications/washington_lawyer/april)
- <sup>29</sup> Shah, S., Rahman, I., & Khashu, A. (2007) Overcoming language barriers: solutions for law enforcement. Retrieved from <http://www.vera.org/download?file=411/Overcoming%2BLanguage%2BBarriers%2BFINAL.pdf>
- <sup>30</sup> Shah, S., Rahman, I., & Khashu, A. (2007) Overcoming language barriers: solutions for law enforcement. Retrieved from <http://www.vera.org/download?file=411/Overcoming%2BLanguage%2BBarriers%2BFINAL.pdf>
- <sup>31</sup> Winton, R. (2008, January 16). LAPD finds a way to connect - latimes.com. *Los Angeles Times - California, national and world news - latimes.com*. Retrieved March 29, 2011, from

---

<http://www.latimes.com/news/local/la-me-translate16jan16,0,6435263.story>

<sup>32</sup> Hensen, P. (2009, July 1). Speak Easy - Investigation - LawOfficer.com. *Law Enforcement & Police - Police News, Training, Equipment & Law Enforcement Jobs* LawOfficer.com. Retrieved March 29, 2011, from <http://www.lawofficer.com/article/investigation/speak-easy>

<sup>33</sup> Hensen, P. (2009, July 1). Speak Easy - Investigation - LawOfficer.com. *Law Enforcement & Police - Police News, Training, Equipment & Law Enforcement Jobs* LawOfficer.com. Retrieved March 29, 2011, from <http://www.lawofficer.com/article/investigation/speak-easy>

<sup>34</sup> Mohammed, D. The Language Software Revolution. *Translation portal: translation jobs, translation agencies, freelance translators and much more*. Retrieved March 29, 2011, from <http://www.translationdirectory.com>

<sup>35</sup> Garrett, R. Capturing What's Lost in Translation from Law Enforcement Technology at Officer.com. *Police & Law Enforcement - Officer.com Police News, Forums, Links and More for Police Officers, Law Enforcement, Corrections, Sheriffs and More*. Retrieved March 29, 2011, from [http://www.officer.com/print/Law-Enforcement-Technology/Capturing-Whats-Lost-in-Translation/1\\$26249](http://www.officer.com/print/Law-Enforcement-Technology/Capturing-Whats-Lost-in-Translation/1$26249)

<sup>36</sup> Hensen, P. (2009, July 1). Speak Easy - Investigation - LawOfficer.com. *Law Enforcement & Police - Police News, Training, Equipment & Law Enforcement Jobs* LawOfficer.com. Retrieved March 29, 2011, from <http://www.lawofficer.com/article/investigation/speak-easy>

<sup>37</sup> Mohammed, D. The Language Software Revolution. *Translation portal: translation jobs, translation agencies, freelance translators and much more*. Retrieved March 29, 2011, from <http://www.translationdirectory.com>

<sup>38</sup> Telcentris Inc., (2010, February 16). *VoxOx first to introduce real-time language translation for sms, chat, social media and email in one interface*. Retrieved from [http://findarticles.com/p/articles/mi\\_m0EIN/is\\_20100216/ai\\_n49523075/](http://findarticles.com/p/articles/mi_m0EIN/is_20100216/ai_n49523075/)

<sup>39</sup> Gourlay, C. (2010, February 7). Google leaps language barrier with translator phone. TimesOnline. The Sunday Times, February 7, 2010. Retrieved from [http://technology.timesonline.co.uk/tol/news/tech\\_and\\_web/personal\\_tech/article7017831.ece](http://technology.timesonline.co.uk/tol/news/tech_and_web/personal_tech/article7017831.ece)

<sup>40</sup> Pillai, J. (n.d.). Google's Real-Time Android Translator To Become Lingua Franca Maestro - eBrandz Search Marketing & Technology News. *eBrandz Search Marketing & Technology News*. Retrieved March 29, 2011, from <http://news.ebrandz.com/google/2010/3125-google-real-time-android-translator-to-become-lingua-franca-maestro.html>

<sup>41</sup> Gourlay, C. (2010, February 7). Google leaps language barrier with translator phone. TimesOnline. The Sunday Times, February 7, 2010. Retrieved from [http://technology.timesonline.co.uk/tol/news/tech\\_and\\_web/personal\\_tech/article7017831.ece](http://technology.timesonline.co.uk/tol/news/tech_and_web/personal_tech/article7017831.ece)

<sup>42</sup> Hensen, P. (2009, July 1). Speak Easy - Investigation - LawOfficer.com. *Law Enforcement & Police - Police News, Training, Equipment & Law Enforcement Jobs* LawOfficer.com. Retrieved March 29, 2011, from <http://www.lawofficer.com/article/investigation/speak-easy>