

Working Paper:

MITIGATING CULTURE SHOCK: E-LEARNING CULTURAL SCRIPTS

Ronald M. Lee
Department of Decision Sciences and Information Systems
Florida International University

April, 2009

ABSTRACT:

This paper proposes that societies ought to come with an instruction manual. Such a manual would be especially useful to immigrants and other longer term visitors. Indeed, the instruction manual might also be useful for training children born within the society. It may also have value for the socially marginalized within the society -- helping them to gain familiarity and confidence in dealing with social institutions and commonplace societal mechanisms. In fact there is material already available to learn about other cultures. However, these materials do not yet meet the needs of many newcomers to a given culture. This paper proposes a new medium and a new modality for learning about another culture: computer gaming simulations with open web-based contributions.

E-LEARNING POTENTIAL OF COMPUTER GAMING

One of the remarkable developments in recent years has been the rise of computer gaming. This industry now exceeds the Hollywood film industry in total revenues. Unfortunately, much of it is the intellectual equivalent of junk food – offering testosterone thrills of simulated blood and guts battles with monsters and space aliens. Educators have long looked at this phenomenon with admiration and jealousy. Most of interactive e-learning software is at the level of e-games decades ago. In this paper we explore the potential application of computer gaming to learning about other cultures.

Here we are not specifically focused on learning a country's history, but more about its present culture. Moreover, pragmatically, a newcomer to a culture, does not need to learn all its aspects at once. There is an instrumentality heuristic: one needs to learn things as they are needed to cope. Ideally, one can learn them 'just in time' -- before cultural mistakes are made. Also, of course, the main things to learn are the cultural differences from one's home country.

1. LEARNING CHALLENGES OF CULTURE SHOCK

This paper is not about tourism in the sense of a short-term guided tour of a foreign destination, where the visitor remains insulated from contact with the local culture. Instead, we are concerned with longer-term visitors, staying months or years, or even permanent immigrants. In these cases, the visitor needs to adapt to the host country's customs and ways of doing things. The difficulty of this adaptation is often called 'culture shock'. Carmen Guanipa [1998] describes culture shock as:

“the anxiety produced when a person moves to a completely new environment. This term expresses the lack of direction, the feeling of not knowing what to do or how to do things in a new environment, and not knowing what is appropriate or inappropriate. The feeling of culture shock generally sets in after the first few weeks of coming to a new place. ... [It is] the physical and emotional discomfort one suffers when coming to live in another country or a place different from the place of origin. Often, the way that we lived before is not accepted as or considered as normal in the new place. Everything is different, for example, not speaking the language, not knowing how to use banking machines, not knowing how to use the telephone and so forth. ... A person may encounter some difficult times and crises in daily life. For example, communication difficulties may occur such as not being understood. ... there may be feelings of discontent, impatience, anger, sadness, and feeling incompetence. This happens when a person is trying to adapt to a new culture that is very different from the culture of origin. Transition between the old methods and those of the new country is a difficult process and takes time to complete. During the transition, there can be strong feelings of dissatisfaction.”

Clearly culture shock is a psychological trauma, provoked by the stresses of adapting to a new environment. However, one also sees that a significant part of culture shock is a learning frustration – simply learning how things work in the new society. We distinguish two aspects of this learning challenge.

The first we refer to as familiarity. Similar things may look and feel differently in the new culture. Houses may be bigger or smaller, taller or flatter. Chairs may be harder or softer, bigger or smaller. Standard paper is a different size. Electrical plugs look different (and may have different voltage).

The second we refer to as the social mechanics of the new environment – its rules and protocols. These include all the simple things in everyday life as knowing where to cross a street, or how to make a phone call. In one’s home country, these had long become subconscious habits, that must now be re-learned for the new society. No single one of these is very difficult, but the myriad of dimensions of possible differences is bewildering and disorienting. Lalervo Oberg, credited for inventing the term “culture shock” – notes the importance of perceptual cues.

“Culture shock is precipitated by the anxiety that results from losing all familiar signs and symbols of social intercourse. These signs are the thousand and one ways in which we orient ourselves to the situations of daily life: when to shake hands and what to say when we meet people, when and how to give tips, how to give orders to servants, how to make purchases, when to accept and when to refuse invitations, when to take statements seriously and when not.

These cues, which may be words, gestures, facial expressions, customs, or norms are acquired by all of us in the course of growing up and are as much a part of our culture as the language we speak or the beliefs we accept. All of us depend for our peace of mind and our efficiency on hundreds of these cues, most of which are unconsciously learned.

When an individual enters a strange culture, all or most of these familiar cues are removed. He or she is like a fish out of water. No matter how broad-minded or full of good will he may be, a series of props have been knocked from under him. This is followed by a feeling of frustration and anxiety. People react to the frustration in much the same way. First they reject the environment which causes the discomfort: “the ways of the host country are bad because they make us feel bad.”

Oberg notes how host country inhabitants have difficulty imagining what is wrong:

“This hostility evidently grows out of the genuine difficulty which the visitor experiences in the process of adjustment. There is maid trouble, school trouble, language trouble, house trouble, transportation trouble, shopping trouble, and the fact that people in the host country are largely indifferent to all these troubles. They help but they just don’t understand your great concern over these difficulties. Therefore, they must be insensitive and unsympathetic to you and your worries.”

2. SOCIAL AFFORDANCES

2.1 THEORY OF AFFORDANCES

Imagine that you are visiting China for the first time. You are in a restaurant, and after enjoying several cups of Chinese tea, you feel a certain urgency. You go to the back of the restaurant in search of the toilets. You find two doors:

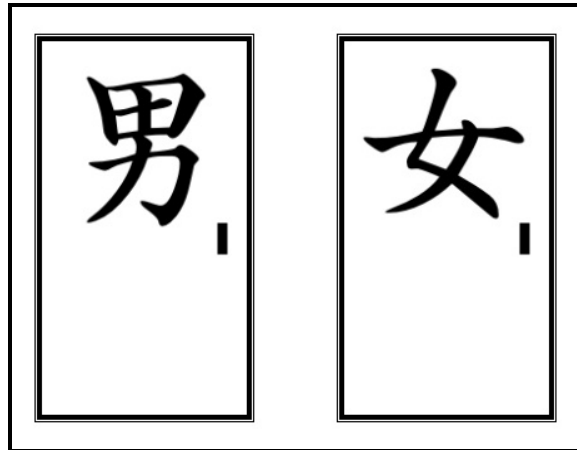


Figure 1. Two Chinese doors. Which will you choose?

One of these doors will afford you relief; the other will afford you embarrassment ¹.

The psychologist Gibson [1979] has adopted the notion of affordances as a central construct in his theory connecting perception and action. “The affordances of the environment are what it offers animals, what it provides or furnishes, either for good or ill.” Perception is thus tied to the acts or behaviors permitted – “afforded” – by the objects, places, and events encountered by the organism. To Gibson, affordances are instrumental, we perceive those aspects of the environment that are most relevant to our goals of achievement or avoidance. Thus, babies learn that a glowing stove may afford it pain, that a bottle affords milk to drink, crying affords attention, etc. Similarly, when shopping (especially at Christmas) we are bombarded with information about the

¹ In the Bayside Restaurant at Lake Minnetonka in Minnesota, there are two doors marked "inboards" and "outboards" -- same affordances.

affordances of each manufacturer's new creations. Yet we ignore most of this information, attending to that information relevant to our purchase objectives.

Gibson uses the term resonance to describe the efficient interaction of the organism with its environment. This has two aspects, one selective, the other synchronic. The selective aspect is like a radio tuned to a particular frequency – its speakers resonate to the signals to a particular station, ignoring all others. The synchronic aspect emphasizes how the organism synchronizes its behavior with the environment. A favorite example is how the biology of the frog's eye enables it to recognize small moving objects, enabling a near automatic response to catch insects.

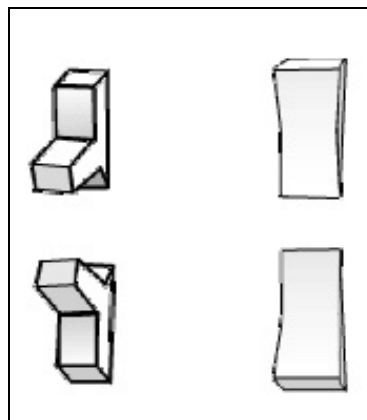
Whereas biological affordances such as this are 'hardwired' in the organism, affordances in human cultures can be much more creative. For instance, on a camping trip, we use logs and rocks to afford us sitting, tables, etc. The clever mechanic is one who can resolve problems using limited materials ('bailing wire'). The prince of affordances is Jackie Chan, who uses all manner of everyday objects in his martial arts scenes.

A tragic example of a lack of creative insight about affordances is the case of two young men who take a jeep trip to the Australian outback. For some reason, their jeep fails, and they discover they have insufficient supply of water. Their dehydrated bodies are eventually found in close proximity to the jeep. Yet the radiator of the jeep still contained several gallons of water.

2.2 CULTURAL ARTIFACTS

The relevance of affordances to the present discussion is in the way cultures design their artifacts to provide certain affordances. These are not only instrumental, but they also often have a certain learning curve to achieve their effective use. For instance, consider learning to ride a bicycle. One must learn to balance, pedal, steer, all with a certain rhythmic coordination. Donald Norman's classic book, *The Psychology of Everyday Things* [1988, also 2002], elaborates on the many subtle aspects of designing affordances in our everyday objects.

As children, we have learned many commonplace affordances, such as turning on a light, turning a faucet to get water, flushing the toilet, and so on. We tend to think of these everyday things as universal – they must be more or less the same around the world. The fact that they are not is an important component of culture shock. For instance, even such a simple thing as a light switch can have cultural differences. Oshlyansky, Thimbleby and Cairns [2004] present the example shown in Figure 2. In the USA (on the left), one flips the switch up to turn it on. In the UK style (on the right), one pushes on the bottom of the switch to turn it on.



*Figure 2. USA vs UK light switches
[from Oshlyansky, Thimbleby and Cairns 2004]*

Globalization has made us aware of some of the main cultural differences – for instance in Asia, people eat with chopsticks, not fork and knife. In Muslim countries, hotels have an arrow on the ceiling. This is puzzling to Westerners. It points the direction to Mecca, affording Muslims the proper direction in which to pray.

In Holland, the newcomer will encounter many puzzling phenomena, just walking down the street. Holland has is quite densely populated, with many different modes of transportation (train, tram, bus, car, bicycle, moped, walking). Thus there are many rules of the road to keep all these different kinds of traffic coordinated. The signs and symbols can be bewildering at first. For instance, some paths are paved with gray stones, other paths are paved with red stones. (The latter are for bicycles.) A series of diagonal lines across the roadway (‘zebra’) indicate that pedestrians have the right of way over traffic to

cross at this point. Certain intersections of roadways have a series of elongated triangles where one road meets the other. This also indicates right of way. Many of these symbols are explained in the manual of traffic regulations, when the newcomer studies to obtain the Dutch driver's license.

Other cultural affordances are more subtle. For instance, you child has to go to the bathroom. Where to go? A bar? A restaurant? A filling station?

2.3 CLUSTERED AFFORDANCES

As was noted earlier, affordances may synergize with other affordances, as in the case of tools. Following the logic of tools, it is easy to understand the differences in kitchen utensils, for instance from a Dutch kitchen to one in Japan. In Japan, cutting is more important than cooking, as with sushi. Thus the Dutch kitchen has a rich assortment of pots and pans, where the Japanese has a large number of cutting tools.

In a similar fashion, bedrooms are comprised of objects such as bed, blankets, pillows, that afford sleeping. Dining rooms have a table and chairs, that afford eating together as a family or group. Though these functions are nearly universal, they may be interpreted somewhat differently in one culture from another. For instance, in a typical Dutch home, there is a living room (woonkamer) that has a big window looking out on the street. Behind this, there is typically a dining room (eetkamer) that has another big window looking out on the back garden. Thus a passerby on the street can look through the house all the way to the garden². Bedrooms are typically on upper floors, which are reached via a narrow stairway.

Bathrooms in Holland are sensibly divided into two separate rooms. One contains the toilet, while the other contains wash basins and shower. There may be a small sink in the toilet, which will have only cold water.

2.4 LINGUISTIC AFFORDANCES

One of the biggest challenges in moving to another country is learning its language.

² Another unwritten rule in the Netherlands is that curtains should be drawn back in the early morning, and not closed until it is nearly time for bed. This is reportedly due to a Calvinist tradition that people should live lives open to public inspection.

If the language is quite different than one's home language, this can be very difficult. Indeed, some people never manage it, and so remain linguistically marginalized in the new country. This is the subject of adult foreign language learning, and there is a related subfield of computer tools known as computer aided language instruction (CALI).

It is clear that words offer affordances. For instance, the word "HELP!" is handy if you find yourself in deep water and cannot swim. But you need to shout it in the local language if you want it to have effect. The typical *Berlitz Traveller's Guide* provides a summary list of key affordance words and phrases for various cultures. But aside from the pronunciation and spelling of the words, the meanings of the Berlitz phrases is about the same in most cultures.

More interesting are terms whose meanings are unique to the culture. For instance, the Dutch word "gezellig" translates roughly to the English "cozy" – but it reflects a pervasive cultural value that is absent in the English word. It suggests an atmosphere of warm friendship. A favorite complement on entering one's home is "wat gezellig" – that the home is a cozy environment. Another specifically Dutch concept is "gedogen" -- which translates roughly as tolerance. It is entwined with another Dutch concept about consensus based decision making, and which should be adaptive to specific situations.

These are examples of what is broadly known as the Whorf/Sapir hypothesis – that differences in language reflect differences in culture [see for instance <http://en.wikipedia.org/wiki/Whorf>]. Thus, learning how these special words are used provides insights into the culture – in particular the things that are valued and considered important in that culture. The favorite example is from Eskimo languages, which have a dozen words for different kinds of snow, but no single word that translates to "snow". To snow is not a single concept, but many diverse phenomena.

Learning such distinctive concepts about a culture is important to learn how its people think and react. However, as in the case of 'gezellig' or 'gedogen' – they represent pervasive cultural values that are especially difficult to model in a simulation.

3. SOCIAL SCRIPTS

3.1 SOCIAL AFFORDANCES

3.1.1 WHAT THINGS AFFORD?

According to Gibson's original definition, affordances were the ways that an organism interacted with its environment. Thus one organism might have quite different affordances than another, depending on its biological and evolutionary niche. Indeed, affordances may even be hardwired – for instance, that a frog's eye is especially sensitive to movement of small dark spots -- a handy feature for capturing insects [Gibson, 1979].

But in speaking about cultural affordances, we are interested especially human organism, and not their innate biology, but the affordances they learn from their cultural context. Donald Norman examines these in his 1988 book, the *Psychology of Everyday Things* ("POET"), which has been republished as *The Design of Everyday Things* [2002]. As these titles suggest, Norman focuses on things, that is artifacts produced by a given culture. The current trends toward trade globalization have done much to homogenize the character of these artifacts. For instance, a television looks and operates much the same in any part of the world.

Here we are interested more in the aspects that are different from one cultural context to another. But these aspects may not be only physical artifacts. They may also include the things people do and say – to the extent they have cultural significance beyond their literal interpretation.

3.1.2 THINGS PEOPLE DO: GESTURES

The home page of the web site of Martinair (www.martinair.nl), an international airline, has a friendly stewardess giving the OK sign. In some countries (Belarussia) this is regarded as an obscene invitation. Other examples abound. For instance, the practice of shaking hands was originally meant as a show that neither party carried a weapon. It was originally just between men, but in many Western societies it also applies to women. However, this does not extend to Muslim countries: a man may not touch a woman not his wife.

The book *Kiss, Bow, or Shake Hands* [Morrison, Conaway, Bordenm, 1994] provides a catalog of cultural differences that are especially relevant when doing business in other countries.

3.1.3 THINGS PEOPLE SAY: CONVERSATIONAL SCRIPTS

In many northern European countries (e.g. Netherlands, Germany), when you go to a restaurant or shop, the serving person will say something as they give you the item (“alstublieft” “bitte”). In this context, it has the (English) meaning “here you are”. These same words are also used to preface a request, with the (English) meaning “please”. Thus, when the serving people are in an English speaking setting (often assumed for international tourists), they literally say “please” when they give you something. The English speaker finds this mildly amusing. However, service transactions in these northern European countries typically do not end with “thank you”. This is often misinterpreted by the Anglo visitor as rudeness.

Another example of a social protocol: in Florida, when people see each other after a time, they invariably ask “How are you?”. In the cultural protocol, there is only one valid response, “Fine.”. If you say anything else, you break the social rhythm, and are being (slightly) non-cooperative [Grice, 1989].

3.2 EVERYDAY TRANSACTIONS

Simple things like how to buy a ticket to ride the bus; how one should wait in line (at the busstop, at the movie theatre); where to buy postage stamps; what to say when you answer the telephone – these may all be different in the host culture, and potential sources of embarrassment.

For example, in the USA, one goes to the drug store to buy prescription drugs, as well as vitamins, cosmetics, and other personal hygiene items. In Holland, the “droggist” carries only the latter. Prescriptions are obtained at the “farmacia”. (This is true in most of Europe.) Another example: the EURIDIS Institute at Erasmus University hosted a number of foreign scientists. One day during a meeting, one of the foreign visiting scientists bent down to tie his shoe, and the shoelace broke. “Oh nooo” he groaned. All of the other foreigners in the room knew exactly what he meant: none of us knew where

to buy shoelaces, and it would no doubt take a search of numerous shops to eventually find them.

Such uncertainties are common in a foreign culture. Some of the obvious cases you can find in the Berlitz guide book. Many other cultural differences are more subtle.

Clark Quinn, in his book *Engaging Learning*, describes a simulation model that focuses on helping the socialization process of dealing with everyday transactions. The application was developed for the Australian Children's Welfare Agency, and the newcomers are not from abroad, but rather adopted children, who are now reaching adulthood, and now need to learn to cope in the world.

The simulator, called "Quest for Independence", is a stereotypical street of shops, as shown in Figure 3. (It is something like SIMCITY, described below, but at a more localized, neighborhood level.) The learning goals for this simulation were obtained from reports from other adopted children who had already been living outside for some time. They reported that the most challenging task was learning all the "chains" of activity: "that to get the government's job-searching allowance, you had to go to a different office to get the form, but then they would not give you the money; you needed a bank account for the money to be deposited in, and to get a bank account you needed references, and to get references you needed some relationships, and so on." [Quinn, 2005, p. 67].

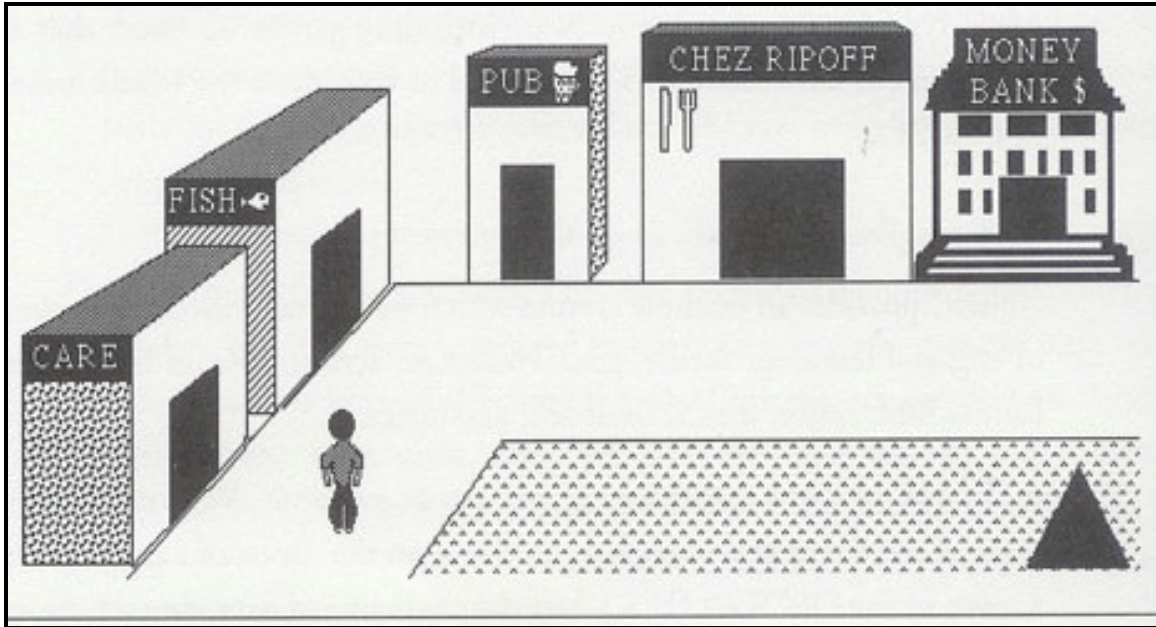


Figure 3. Quest for Independence, Screen Shot.

3.3 BUREAUCRATIC TRANSACTIONS

Perhaps the most intimidating experiences of newcomers to a country are coping with the various bureaucratic procedures. These typically begin already back in one's home country, in obtaining a visa. One must go to the consulate, obtain the required form, provide documentation (credentials of citizenship status, sometimes financial, health, and educational status), pay fees, provide fotos, fingerprints, etc. These steps are objectively complicated, but also emotionally wearing. Because the applicant is an outsider, he or she has no inherent rights of dispute or appeal in the process. If the country refuses admission, the decision is final.

Once arriving in the country, the newcomer must undergo various other procedures, such as registering one's residence in the particular city; tax registration; registering children in school; obtaining a local driver's license, etc.

In each of these procedures, there is the challenge of understanding it objectively – the steps required, the documents needed. Often, even if one is familiar with the local language, the bureaucratic terminology can be intimidating. But in addition to these objective factors, there are also emotional, as well as interpersonal aspects. A typical scenario is that the clerk seems unnecessarily obstructive. You as a newcomer, are not sure why. Is it because the clerk is perhaps trying to get some extra money? The solicitation of bribes is commonplace in certain countries, and is one of those cultural attributes that is important for a newcomer to learn. In the case of Holland, official staff would never solicit a bribe. (This is true throughout most of Europe, as well as the USA.)

3.4 NEGATIVE SOCIAL AFFORDANCES

Social affordances differ from physical affordances, in that they can also entail often surprising negative consequences, typically by creating some kind of embarrassment or offense that was not intended. For instance, in a Muslim country, it is offensive if a man tries to shake hands with a woman. Likewise in Arab countries, sitting with your legs crossed so that the bottom of your shoe is visible to others is highly offensive.

Example. A young American man meets a young Dutch lady in the USA. After a time, they decide to marry, and so they take a trip to Holland to meet her parents, who live in Groningen. It is a long over-night flight and it is afternoon by the time they land in Amsterdam and take the train to her parents' house. In typical Dutch fashion, the Mother prepares an afternoon snack of tea and cookies. The Mother pours tea for everyone, then takes a plate of cookies and offers it one by one to each of the guests. The young man, by now quite hungry, takes several cookies. The Father raises his eyebrows at this, but the young man does not notice. Later, the Mother offers the plate of cookies again, and again the young man takes several. The Mother puts the plate on the table, and the young man takes more cookies from the plate, which is now lying on the table. The Father is so upset at the young man's bad manners, that he cancels the wedding. What the young man does not realize, is that in Holland there is a ONE-COOKIE RULE – when a host offers a plate of cookies (etc), you must take only one, unless given explicit permission to take more. The irony is that while nearly every Dutch person would know this rule, it is so implicit that few would think to explain it to a newcomer.

This raises the question of knowledge elicitation: how to identify the kinds of affordances, etc that the newcomer needs to know? Often, like the one cookie rule, these are aspects that are invisible to the people that live there. We return to this question in a later section.

3.5 RITUALS

Rituals are the epitome of social protocols. They are a set of highly symbolic actions that are performed in a precise sequence, typically to dramatize a social transition of some kind. Familiar rituals include ceremonies of all kinds: baptisms, weddings, initiations into clubs, crowning of royalty, funeral ceremonies, awards ceremonies, etc. The ritual is done in a certain way that it actually affords the change in social status. The critical utterance is performative [Lee, 2004], e.g. the priest saying “I now pronounce you husband and wife.”

4. TRADITIONAL MEDIA FOR LEARNING CULTURAL AFFORDANCES

4.1 CHILDREN’S TOYS AS CULTURAL MODELS

There is another major group of newcomers to any culture: children. Unlike the adult newcomer, who only needs to learn cultural differences, children need to learn about all aspects of a culture, as well as the basic physics and biology of the ordinary world. Many children’s toys facilitate this cultural learning. These are not just specifically ‘educational’ toys for learning the alphabet, words, and numbers, but toys of nearly every kind, from toy soldiers, to dolls, to erector sets.

Indeed, a strategy for a newcomer to learn elementary aspects of a culture is to visit a toy store. In this regard, it may be the toys for little girls that convey more about cultural differences. Note for instance the style of children’s dolls. Are they friendly or serious? Cuddly or elegant? Also note how they are dressed. The clothes for children’s dolls are likely to be representative of the social norms. (Consider: Barbie, Ken).

Another kind of toy that is quite informative about the culture is the doll house. A doll house provides an inside overview of a prototypical house. Note the way that rooms

are defined: is there a separate dining room? How are sleeping quarters arranged (in Japanese houses, they fold away). Note the appliances in the kitchen of the doll house.

Boys on the other hand often get involved with models of larger areas, such as a battlefield of toy soldiers or space aliens. One kind of modeling popular for young boys is the model train set. At the simple level, it is an electric train that goes around in circles. But some boys get hooked on the modeling aspects and build sophisticated models of buildings, roadways, bridges, tunnels, etc.

4.2 SCALE MODELS OF CITIES

In coming to a new place, we typically get a map. For a city, the map provides us a birds-eye view of the arrangement of streets – allowing us to navigate in ways that we could not do from ground level information alone. Another device provided by some cities is called a “maquette” – it is a scale model of the city. For instance, the city of Havana has two such scale models, one of the greater metro area, the other, in larger scale of the old city. Other cities with such scale models include Los Angeles, and New York. In Rome, there is a scale model of Ancient Rome. This is quite enlightening for tourists having visited the Forum and other ancient ruins.

In Holland, there is another kind of maquette, called Madurodam. Madurodam is a scale model a pseudo-city that contains major historical landmarks from all over the country (including Rotterdam harbor, Amsterdam airport). It is a kind of mega- doll-house, with motorized figures, etc. Madurodam is reminiscent of the scale model railroads that some children create. Madurodam is entertaining, but also educational, especially for children. In particular, it familiarizes children, as well as newcomers, with the major landmarks around the country.

4.3 CHILDREN’S BOOKS, COMICS

Most literate societies have a special genre of books for children. In most cases, these books are illustrated, to assist children to associate words with pictorial meanings. But usually, the illustrations in children’s books are sketches, with details much simplified from reality. They are much like cartoons. The same can be said of television entertainment for children – it is usually abstracted, with exaggerated, simplified features (e.g. consider Sesame Street). This cartoon-like abstraction seems to be a near standard

feature for media directed towards children. Why should this be so? Scott McCloud, in his book, **Understanding Comics** [1993, also 2000] offers some useful insights. He presents the progression of faces as shown in Figure 4.

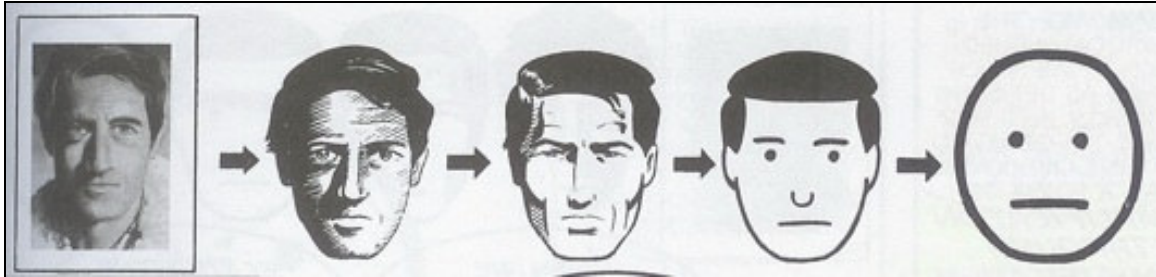


Figure 4. Progression, Removing Details of Faces

This progression, he calls “cartooning”. He claims that a major purpose of cartooning is “amplification through simplification”. He elaborates: “when we abstract an image through cartooning, we’re not so much eliminating details as we are focusing on specific details. By stripping down an image to its essential ‘meaning’, an artist can amplify that meaning in a way that realistic art can’t.” We see this also in the design of children’s toys. For instance, the doll house is usually not in actual scale – it exaggerates to bring out certain features. (The Dutch miniature city Madurodam also uses this technique.)

But there is another important aspect of cartooning as it refers to the representation of faces, and other parts of story characters. He calls this “the universality of cartoon imagery – the more cartoony a face is ... the more people it could be said to describe”. By removing details from the representation of the character, it is easier for us to project our own imagination into that character.

These are useful insights into the teaching of cultural differences. When we see a scene from a different culture (for instance, a street with houses), much of it will be the same as in our home culture. In order to quickly absorb the cultural differences, we need to exaggerate them, in a way the photograph cannot.

5. E-LEARNING CULTURAL SCRIPTS

5.1 PROVIDING FAMILIARITY – SIMULATING SENSORY CUES

What does it mean to know a culture? We would say it is to understand that that culture's distinctive affordances. But what is it to understand an affordance? At a rational level, it means to understand the society's cues, and what to expect when these cues are present (seen, heard, sensed). But as anyone who has learned to drive a car knows, there is a transition from the conscious understanding of the rules, versus the wholistic, internalized skill of driving. (For instance, watch a learner trying to parallel park, versus someone who has done it for twenty years.)

In the Netherlands, when you hear a certain “ding, ding” you need to jump out of the way. It means there is a tram coming, and they do not slow down (they are too heavy to stop quickly). The pedestrian's reaction in the Netherlands needs to become instinctive. Similarly, if you cross a path that has red paving stones, you need to be immediately alert for oncoming bicycles.

Thus on one level, the teaching of cultural affordances is a kind of semiotics, of how cultural cues signal opportunities and threats, and the steps to take to pursue or avoid them. However, it is not enough to merely know these at a rote level, e.g. for taking a quiz. Rather, cues need to become internalized.

One aspect of culture shock noted earlier is a sense of unfamiliarity in new cultural situations. This may be due to an array of unfamiliar sensory cues – that may have had different associations in one's home culture, or may be entirely new. The disorientation provoked by these confusing sensory cues may override one's rational understanding of the situation.

For instance, imagine one's first experience in an underground parking ramp. Suppose you have arrived from some sunny tropical country where such things do not exist. You drive down a spiraling road. It becomes darker. There is heavy gray concrete all around you. The smell is dusty cold. There are clanking echoes. In the newcomer's home country, the context most resembling this might be a prison. He hesitates, but there are cars behind him on the ramp that start to honk and he hurrys on down. Nonetheless, he feels quite uncomfortable.

Another example. Imagine you are a Dutch college student visiting Cuba. You make friends. You and your friends decide to have a big party. The centerpiece will be roast pig. The day before, you are invited to help in the preparations, which you are honored to do. A novelty for you is that you get to help kill the pig. Up until now, you had always thought pork came wrapped in cellophane.

An e-learning system might help to reduce the startling surprise of these sensory cues in such situations. While the sensory cues of smell and taste are still beyond the technology, computerized multi-media can simulate visual and audio cues for the visitor. The purpose is to help reduce the shock and surprise, and perhaps provide sufficient lead time to avoid the situation if one prefers. In many cases, the confusing cues create fears or hesitancy that dissipates with familiarity.



*("Mouth Open – Eyes Closed")
Hollandse Nieuwe – fresh caught herring*

5.2 TEACHING SOCIAL MECHANICS

Aside from these familiarity aspects, the newcomer may also need instruction in the social mechanics. For instance, in the parking garage, one enters and confronts a bar blocking the vehicle entrance. One needs to know to take a ticket from the device on the left, the taking of which will cause the bar to be automatically lifted. The newcomer also needs to know that nothing needs to be done until you return. Then, you should put the ticket in a yellow machine (for Netherlands) at the passenger entryway, pay the specified amount (using a credit card or cash), and retrieve the ticket. On exiting, another bar will block the way of the vehicle. This time, one needs to insert the now paid ticket, and bar will open.

ALERT: in the Netherlands, the newcomer needs to be especially aware that many such parking garages are not open 24 hours, and will close at a certain time. If you return after that time, you may need to wait until the next morning to retrieve your vehicle.

(These are the kinds of details that a newcomer finds exasperating!)

Consider how such social mechanics might be taught in a computer program. In the simplest form, a textual explanation such as just presented might suffice. This would probably be sufficient for someone coming from a country having similar style parking garages. However, depending on the prior experience of the newcomer, one may want to show a foto of entrance and exit gates to the parking garage. A more embellished version might actually show a video clip showing the gate opening on entrance, and later on exit. It would also be useful to know the visual cues for the closing hours, perhaps showing a foto of the sign. (Though this might have more variability from one garage to another.) In any case, it would be useful to provide the local language keywords for this information: e.g. “GESLOTEN 00:00 – 06:00” .

Another kind of parking protocol is more likely found in a suburban area. This applies to street parking of a limited duration. There are no meters, hence no charge. How do they monitor the duration? For this, one needs to have a special cardboard clock with movable hands, that you set to the time when you start parking. Where does one obtain such a cardboard clock? Good question. Ask a Dutch person. They will tell you they have

had the same one for years. You can probably get one in a tabak. (Now go look for a tabak.) Yet another variation about parking in the Netherlands. You may decide to park next to a parking meter. These meters no longer accept coins. You need an electronic cash card (e.g. “ChipKnip”). Obtaining one of those is another still another social protocol.

Parking is of course only one kind of social activity among many. Parking presumes one travels by driving a car. Instruction about Dutch driving regulations is itself so complicated that many schools have been established for this purpose. (Getting a driver’s license is celebrated in Holland on par with getting a college degree.) If one chooses public transport, there are various other social protocols to learn. For instance, to ride a subway or bus, one needs a so-called ‘strippenkaart’. Some subway stations have vending machines where you can buy these. Otherwise the place to buy them – you may not have guessed where: a tabak.

5.3 LEARNING AFFORDANCES AS REVERSE ENGINEERING

The most direct way to convey cultural affordances would be to have an instruction manual or rule book. Indeed, there are a variety of books and other information resources that take this approach. For instance, the books series called Culture Shock! [Janin and van Eil, 2005], and the book Kiss, Bow or Shake Hands [Morrison, Conaway, Borden 1994]. By contrast, the approach encouraged here is experiential, and learn by doing. Such learning also entails the flexibility to make mistakes, but with lesser consequences than in a real world setting.

Will Wright, commenting about the engagement that players have with THE SIMS games, comments “as a player, a lot of what you’re trying to do is reverse engineer the simulation” [Glassner, 2004, p. 200]. There is a lot of relevance in this remark for the teaching of cultural affordances. This is essentially what the newcomer to a culture is trying to do – reverse engineer the rules, based on the behavior and feedback one receives. In a more recent article, Wright remarks: “Now an entire generation has grown up with a different set of games than any before it – and it plays these games in different ways. Just watch a kid with a new videogame. The last thing they do is read the manual. Instead, they pick up the controller and start mashing buttons to see what happens. This

isn't a random process; it's the essence of the scientific method. Through trial and error, players build a model of the underlying game based on empirical evidence collected through play. As the players refine this model, they begin to master the game world. It's a rapid cycle of hypothesis, experiment, and analysis. And it's a fundamentally different take on problem-solving than the linear, read-the-manual-first approach of their parents." [Wright, 2006]. This is exactly the kind of learning experience we would like to provide newcomers to learn about their new host culture.

6.3 MULTIPLAYER ONLINE SIMULATION GAMES

6.3.1 ONLINE ROLE PLAYING GAMES

According to the Wikipedia [<http://en.wikipedia.org/wiki/MMORPG>]: "A massively multiplayer online role-playing game (MMORPG) is an online computer role-playing game in which a large number of players interact with one another in a virtual world. As in all RPGs, players assume the role of a character (traditionally in a fantasy setting) and take control over most of that character's actions. MMORPGs are distinguished from single-player or small multi-player RPGs by the game's persistent world, usually hosted by the game's publisher, which continues to exist and evolve while the player is away from the game." These MMORPG's have become immensely popular in recent years, with some games have subscribers in the millions.

6.3.2 SIMS ONLINE

One of the key differences of the online version is that other players will be present in the game at the same time. Will Wright [2001] comments:

"the most appealing aspect of the game will be the ability for players of **The Sims** to import their characters into a persistent world populated with other players. The ability to engage in cooperative or competitive situations will also be available. ... One of the very first decisions we made on this was that we didn't want to lose this tremendous value of all the content the players had created already, so we're going to make it as much as possible content-compatible with the existing Sims, which means that all those bizarre, wacky skins and houses and objects will be compatible with the game if you bring them in and use them in the middle of your strange environments. ...it's built around that, people creating really cool places to come visit, cool activities to participate in, and reward them if other people enjoy those, ... We're not just going to have

houses, we're actually going to be more open-ended with this, hopefully, where people can build nightclubs or theme parks, sports arenas, whatever they want to, using the same building tools that were in the Sims.

It is interesting to note the consistency in Wright's remarks five years later [Wright, 2006]

“Instead of leaving player creativity at the door, we are inviting it back to help build, design, and populate our digital worlds. More games now include features that let players invent some aspect of their virtual world, from characters to cars. And more games entice players to become creative partners in world building, letting them mod its overall look and feel. The online communities that form around these imaginative activities are some of the most vibrant on the Web. For these players, games are not just entertainment but a vehicle for self-expression.”

9. CULTURAL STEREOTYPING

Studies of cultural distinctiveness have of course been a major focus of anthropology for many years. However, these studies tend to focus on specialized aspects that are distant from the mundane adjustments that a newcomer faces in a new country. What is needed here is a more pragmatic orientation, dealing with the differences in day-to-day activities in modern societies. The aforementioned book, *Kiss, Bow or Shake Hands: How to Do Business in Sixty Countries* [Morrison, Conaway, Borden, 1994], uses the following template to describe the cultural orientation of each of the 60 countries profiled:

Cognitive Styles – how the locals of the country organize and process information

- open minded vs closed minded
- associative vs abstractive
- particular vs universal thinking

Negotiation Strategies – what the locals of the country accept as evidence

- people who act primarily on the basis of faith
- people who act primarily on the basis of facts
- people who act primarily on the basis of feelings

Value Systems – the basis of individual behavior

- locus of decision making: individual vs collective
- sources of anxiety reduction: interpersonal relationships vs religion vs technology vs law

Issues of Equality/Inequality

- social/economic stratification
- male/female equality

Another stream of work on cultural differences stems from the work of Hofstede [1980], who identified important cultural differences in the different international branches of IBM. Fukiyama [1996] also offers interesting insights into cultural differences regarding interpersonal contacts and trust. For instance, he points out that Americans have a tendency he calls ‘spontaneous sociability’. For instance, Americans will generally engage in conversation with the stranger sitting next to them in an airplane. Most other nationalities will not.

Earlier, we mentioned several of the national tendencies in the Netherlands: frugality, punctuality, directness, consensual decision making. In the technology described here, it is easy to imagine the how to program the simulation of specific artifact affordances, such as using the subway, or paying at the kassa. However, a deeper challenge would be how to model these broader cultural tendencies, which would influence the response to a wide variety of actions. One approach might be as weightings on certain of the simulated personality variables, such as described in the Appendix. This is an important challenge for future research.

REFERENCES

- CIA. The World Factbook.
[<http://www.cia.gov/cia/publications/factbook/docs/refmaps.html>]
- Crawford C. *On Interactive Storytelling*. New Riders. 2005.
- Fukuyama, Francis. *Trust: The Social Virtues and The Creation of Prosperity*, Free Press, 1996.
- Gibson James. *The Ecological Approach to Visual Perception*. Houghton-Mifflin. 1979.
- Glassner A. *Interactive Storytelling: Techniques for 21st Century Fiction*. A K Peters, 2004.
- Grice, Paul. *Studies in the Way of Words*. Harvard University Press. 1989.
- Guanipa, Carmen. “Culture Shock”, San Diego State University, 1998
[<http://edweb.sdsu.edu/people/CGuanipa/cultshok.htm>]

- Hinds, David. "Open Web Learning – Achieving Creative Synergy in the Open Development and Use of E-Learning Resources", 7th International Conference on Enterprise Information Systems (ECEIS) Doctoral Consortium, Miami, 2005.
- Hofstede, G. (1980). *Culture's Consequences. International Differences in Work-Related Values*. Beverly Hills, CA, Sage Publications.
- Lee, R.M. "Direct Manipulation of Graph-Based Decision Models" *Decision Support Systems* (8) 1992.
- Lee, R.M., Zielinski, M. and Somasundaram, R. "Open Sourcing E-Learning for Developing Countries", in *Electronic Business in Developing Countries: Opportunities and Challenges*, ed. by S. Kamel, Idea Group, 2005, pp. 291-314.
- Lee, R.M. "Performatives, Performatives Everywhere But Not a Drop of Ink", in *Formal Modeling in Electronic Commerce*, eds. S. O. Kimbrough and D.J. Wu, Springer-Verlag, 2004, pp. 177-200.
- McCloud S. *Understanding Comics*. Harper-Perennial Publishing. 1993.
- McCloud S. *Reinventing Comics*. Perennial Publishing. 2000.
- Morrison T, Conaway A, Borden A. *Kiss, Bow, or Shake Hands: How to Do Business in Sixty Countries*. Adams Media Corp. 1994.
- Norman D. *The Psychology of Everyday Things*, Basic Books, 1988.
- Norman D. *The Design of Everyday Things*, Perseus Books, 2002.
- Nupedia. URL accessed May 7, 2005: <<http://en.wikipedia.org/wiki/Nupedia>>
- Oberg, Lalervo "Culture Shock & The Problem Of Adjustment To New Cultural Environments", WorldWide Classroom 2006 [http://www.worldwide.edu/travel_planner/culture_shock.html]
- Oshlyansky L, Thimbleby H, Cairns P, "Breaking Affordance: Culture as Context, " NordiCHI '04, October 23-27, 2004 Tampere, Finland.
- Quinn C. *Engaging Learning: Designing E-Learning Simulation Games*. Pfeiffer/Wiley. 2005.
- Shank, R. *Lessons in Learning, E-Learning, and Training*. Wiley/Pfeiffer. 2005.
- Stamper, R. "A Logic of Social Norms for the Semantics of Business Information" in Steel, T. and Meersman, R. (eds), Proceedings of IFIP WG 2.6 Conference of Database Semantics, North-Holland, 1985, pp. 105-133.
- Wenger E, McDermott R, Snyder W. (2002). *Cultivating Communities of Practice*. Harvard Business School Press,.
- Wikipedia. URL accessed May 7, 2005: <www.wikipedia.org>
- Wright, Will. Keynote Address, Conference on Entertainment in the Interactive Age, Jan 2001, USC, California
[www.annenberg.edu/interactive-age/assets/transcripts/willw.html]
- Wright, Will. "Dream Machines – How Games are Unleashing the Human Imagination." *Wired*, April, 2006 [<http://wired.com/wired/archive/14.04/wright.html>]
- Wright, Will. "Sims, BattleBots, Cellular Automata God and Go", *International Journal of Computer Game Research*, 2:1, July 2002 [<http://gamestudies.org/0102/pearce/>]

REFERENCES ABOUT DUTCH CULTURE:

- Buckland, S, *Culture Smart! Netherlands: A Quick Guide to Customs & Etiquette*, Graphic Arts Center Publishing Company, c. 2003.
[Note: Culture Smart! is a book series covering many different countries.]
- Condon, S. *My 'Dam Life: Three Years in Holland*, Lonely Planet Publications, 2003.
- Dijkstra, S. *The Holland Handbook 2004-2005: The Indispensable Reference Guide for the Expatriate*, Cyan Communications; 5th edition, 2004.
- Janin H, van Eil R. *Culture Shock! Netherlands: A Survival Guide To Customs and Etiquette*, Graphic Arts Books, 2005.
[Note: Culture Shock! is a book series covering many different countries.]
- White C, Boucke L, Haller R, Fried G. *The Undutchables: An Observation of the Netherlands, Its Culture And Its Inhabitants*, White-Boucke Publishing; 5th edition, 2005.