



## Application of second language acquisition theory in Rock Art

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If a written language existed in Peru, the process of its acquisition would have taken place; this process should be identified in the study of Peruvian quilcas. Based on this assertion, we assume that written language did exist in our country.

Second-language acquisition refers to what learners do but it does not refer to practices in language teaching however in this article we need to introduce the idea of teaching and acquiring occurring at the same time.

We believe the written language in Peru was learned, but it was also acquired in a natural process. Krashen (1982) differentiates between learning and acquisition, using learning to refer to the conscious aspects of the language and learning process and acquisition to refer to the subconscious aspects.

He also points out to INPUT as the way of enhancing and speeding the acquiring of a second language, this would explain the amount, length, recurrence and sheer magnitude of some quilcas as an effort of enhancing a response and probably the universalization of specific forms.

This theory proposes the idea of Generalizations as a logic element of human reasoning. This element is contrasted by individuals through experiential living, this is how basic rules of co-existence are established.

Based on these facts we assume these generalizations must follow a process to be acquired, said in other words the passing on of this knowledge took different routes.

Maybe the first route was the sharing of similar elements and designs, so linguistically speaking we find "Quilcas" acting as referential landmarks where the same idiom would be used as a communication link.

Identification of the social group is also something to consider since age and geography define needs and development towards these set of needs.

Let's analyze these levels of Generalizations:

The first level we find is the **Enacting** in other words the manipulation of these "Quilcas" or rock surfaces that were transformed into pieces of reference, learning tools or pieces of art.

Had anybody lived close to these Quilcas would have manipulated the resulted product of this artistic event what in the Taxonomy Anderson (2001) called **Creating**, and Bloom and Krathwohl (1956) **Synthesis**.

So, manipulation is just the mere handling of a taxonomical category in the study of language. Curiosity might have been our first weapon into the acquisition of the language.

Moving onto the next level through observation we encounter the first task proposed by this theory: **Discrimination and Association** by this we understand the differentiation learners make when exposed to different designs. Imagine a board where different produce is shown like carrots, water melons, tomatoes and bananas.

The first association people would make is the one that puts the whole group as produce, but at the same time the discrimination between fruit and vegetables would be made.

Imagine this case but in Rock art terms, differentiating llamas and vicunas from cactus and other

forms according to size, forms and dispersion over the support.

As investigators, we may extend this level to the concepts, too. In other words this is not only association of images that might encode a message but the association of messages in order to put together a complete idea.

The next level is the **applying**, by this we understand the response to a stimulus which is basically the following of procedures and instructions even when this is more applicable to an actual learning session, we believe it is also possible to see this in the acquiring of a language.

In previous articles we talked about the "aesthetic function" which is a response to the stimulus fed by the image or set of images creating a need for a response in the observer who becomes an artist instantly. From this level the observer who responds will be part of the artistic process and the broadcasting of information. The level of segregation, discrimination and enacting should be present at all times assuring continuation.

**Analyzing** which is the following level, it is the contrasting of ideas. Classification and segregation take place at this stage; what is alternative is the actual order these events happen.

It is likely that the applying pre-exists to the analyzing but sometimes goes the other way around; either or, it is not uncommon finding different cases with different orders.

**Creating** might be a level which should not be confused with the applying and following of procedures since creation implies liberty, of course the experiential living counts but it would be the individual's own interpretation and sensing of reality the main feature in order to introduce a new design or set of designs with the purpose of encoding and old or new meaning. In other words: creation of language, creation of written language. However the creation of new language would not be significant without the recognizing, assessing, solving of these signs, designs, quilcas and messages they encoded; to this level we call: **Evaluating**.

### Use and application of SLA Theory to an actual Quilca

For this matter we will be analyzing the Quilcas of Palmo (Echevarría 2011):

We take into consideration two of the hypothesis used for SLA; the first one is the input hypothesis where new information is introduced based on former information known by the observer. The whole purpose is to activate schemata.

The first level of acquiring the language based on these panels is the enacting, so observer will be manipulating, looking and touching them. The recognition of the actual dimension is the most important thing. Observers would get a nice view of the designs, but also the terrain and surrounding areas. The whole manipulation takes place based on the principle of anthropometry where human dimension plays an important role in human evolution. Design and architecture require statistical data about the distribution of body dimensions. This is used for the purpose of perfecting and improving human life. Changes in life styles would lead to changes in the



material externalization of this phenomena, too.

So, these observers would only sense the environment to get a familiar feeling of the area that was worked upon. We believe manipulation was made under this principle, what Quetelet (1869) called: the study of human relationships based on human dimensions taking the average man as his starting point.

This level of manipulation or Schemata activation gives the observer a restricted input in reality creates more questions than answers but prepares the observer for the next stage which is the Clarification of ideas, probably by making a design the most representative of the scene above all the rest.

Once this happens; a restricted output will take place, this output or signal is founded on some level of understanding of the Quilcas being quite limited in its expression.

In some cases we might find an authentic output which is not-limited in its expression since it goes beyond the information acquired in the previous input data in-taking stage. This could be manifested with the appearance of new designs or forms; we doubt new meaning but in reality we do not know.

#### Site of Palmo

This site of Palmo is what we called a "learning center" a major site for the area where most of the cultural expression took place.

In the Figure 1 we see all forms expressed in these rocks, they all have alike patterns in their motives probably Chavín-like forms. In this particular picture we observe an anthropomorphic lizard- figure seen in only one dimension looking at us.

In the next picture (Fig. 2) crisscrossed lines and geometric designs of Xs and squares.

In the next picture (Fig. 3) we have another figure the falcon in one dimension with the extended wings resembling geometric patterns on its members.

In the next picture (Fig. 4) we see a one dimensional serpent, made by geometric forms of triangles and lines.

Well, how about this for schemata! We basically have a clear set of rules hidden behind the quilcas, this would be interpreted like this:

- . In order to represent an animal figure we need to make it looking up on us.
- . Only one dimension is the way to create these figures.
- . They must resemble some level of human forms.
- . One geometric form makes one part of the figure.
- . The union of geometric forms makes up the whole figure.

The next step of clarification can be seen on Fig. 5 where the forms are simple but at the same time clear in their expression.

In the Fig. 6 we have the restricted output of the schemata and clarification stages. Here we observe a figure which is not looking up on us, but it is definitely human-like and it has been made out of geometric patterns. So, in reality the instructions were not followed to their fullest but this is easy to understand when we have a lot of designs in one place and the process of acquiring the language is different for every observer, some would get it really fast and others would have been very slow learners.

In the Fig. 7, we have a free repertoire of forms that obey to particular interpretations of different

observers who became artists by the impulse of these schemata forms.

We see geometric patterns, abundance of lines and forms, some human-like forms and the continuation of the patterns through out the whole support.

The only thing that is clear to me is that it is FREE, other than that, if it is a clear design or a confused one becomes relative, even spatial distribution or techniques for this matter become secondary since we have the whole process of acquisition detailed.

#### Conclusions

The process of acquisition goes along with the process of learning since clarification becomes necessary in most of cases. Probably the existence of a guiding hand or master was implicit.

The schemata level was the most powerful tool to enhance codification, de-codification and interpretation.

Schemata did not just happen by the contrary the designs that were chosen at this level were carefully selected so, there was not such a thing like a natural, instinctive or casual phenomena. It was a prepared stage with a clear purpose of arising responses and directing the observers towards one route and one route only.

Schemata designs were the first ones in chronology but they remained a final and evolved product in essence.

As in previous articles we believe the observers become the artists by reacting to an impulse (restricted input) and using a cognitive style of acquisition or learning the language.

There were different kinds of artists according to their level of skill and exposure. Some of them would have gotten to be visionaries and include new forms to encode different or the same messages.

This is why we believe that acquisition and learning process took place at the same time.

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Figura 1. Quilca, sitio arqueológico El Palmo. Foto GoriTumi 2011. Figura 2. Quilca. Foto GT 2011.



Figura 3. Quilca. Foto GoriTumi 2011.



Figura 4. Quilca. Foto GoriTumi 2011.



Figura 5. Quilca. Foto GoriTumi 2011.



Figura 6. Quilca. Foto GoriTumi 2011.



Figura 7. Quilca, sitio arqueológico El Palmo. Foto GoriTumi 2011.