

# Language, Culture and Environment. The Conceptualization of Herero Cattle Terms<sup>1</sup>

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## 1. Introduction

Since its early beginnings towards the end of the 19<sup>th</sup> century academic research into color terms has been concerned with the question of whether language is determined by environmental factors or whether our perception of the environment rather depends on language. Two different lines of approach to the origin, the development and the differentiation of color terms were developed subsequently which have been described as comparative-evolutionary and cultural-relativistic respectively.<sup>2</sup> The comparative-evolutionary school explains differences between the color systems of 'primitive' languages either with differing biological development of the organs of sight or with the social, mental or technical stages of development of a community of speakers. Unlike this school, the cultural-relativistic approach denies any connection between biological or intellectual development and semantic organization. Its advocates assume that perceptions are directly controlled by language, semantics and culture. In the second half of the 20<sup>th</sup> century, when color terms became more and more important as a field of research in structuralist linguistics, this position was adopted by linguists dealing with language as a means of categorizing the environment. Color terms served to illustrate the arbitrariness of linguistic categories.<sup>3</sup>

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<sup>1</sup> This essay is partly based on the author's MA thesis *Kognition und Konzeptualisierung am Beispiel der Bezeichnungen für Farben und Musterungen von Rinderfellen im Herero* which was submitted to the University of Cologne, Institute of African Studies, in 1998. Thanks for valuable comments on earlier versions of this paper are due to Roy Sommer and Mathias Schladt.

<sup>2</sup> Bornstein, Marc H. 1975. *The influence of visual perception on culture*, in: *American Ethnologist* 77, pp. 774-798.

<sup>3</sup> For a more detailed historical overview see Berlin, Brent and Paul Kay 1969. *Basic Color Terms. Their Universality and Evolution*. Berkeley/Los Angeles, pp. 134-151, Bornstein 1975. *Visual Perception*, pp. 777-781, and Segall, Marshall

Referring to these positions, this essay examines the relationship of language, culture and environment from the point of view of cognitive linguistics. The aim of this study is twofold. Firstly, taking the Herero terms for colors and patterns of cattle skins as an example, we investigate the relevance of the physical environment of this community of speakers for the linguistic encoding of a concept. The analysis of encoding will show that metaphorical processes are involved which throw light upon the influence of environmental factors on language. Terms may be encoded by transferring a concept from one area of human experience to another, for example from the domain of nature or action to the domain of colors and patterns. This transfer is referred to as conceptualization. Conceptualization thus means a cognitive process in which terms are encoded and categories established.

Secondly, we analyze the socio-cultural and economic background of the motivation for the encoding of a concept. By way of encoding concepts categories are produced. The formation of categories, however, is not arbitrary. The questions which arise from this concern the purposes of terms for colors and patterns. We will try to show that a very detailed differentiation in a specific field of vocabulary like the Herero cattle terms has to be considered as socio-culturally based and economically motivated.

## 2. Cognitive Linguistics

Although it was named as such only much later, a cognitive approach to linguistics was adopted early by those linguists who were skeptical about the generative point of view, which excluded extralinguistic aspects of language.<sup>4</sup> Cognitive linguistics is complementary to other cognitive sciences such as biology, neurophysiology, experimental psychology, philosophy and anthropology. In common with the other cognitive sciences cognitive linguistics is based on the assumption that it is not realistic to speak of language as a faculty "independent from sensori-motor and cognitive development, perception, memory, attention, social interaction,

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H., Donald T. Campbell and Melville J. Herskovits 1966. *The Influence of Culture on Visual Perception*. Indianapolis/New York, pp. 37–48.

<sup>4</sup> The label "cognitive linguistics" is closely connected to the publication of two influential studies in 1987, Langacker's *Foundations of Cognitive Grammar*, and Lakoff 1987. *Women, Fire and Dangerous Things. What Categories Reveal about the Mind*. Chicago/London.

personality and other aspects of experience"<sup>5</sup>. Cognitive linguistics is thus concerned with extralinguistic factors such as perception and cognition.

### 2.1. Perception and Categorization

According to structuralist linguistics categories are established arbitrarily. The hypothesis of the continuity of physical and social reality is central to this approach. The use of language is always necessarily accompanied by categorization. There exists no language which has a term for every single perceptible color. When two different colors are referred to by the term "red", a category RED is established which makes no difference between those two entities, although they are not identical. Through encoding, the physical and social environment is arbitrarily divided into several categories which seem to exist as a continuum. The hypothesis of the continuity of physical and social reality seemed to apply especially to the domain of colors. From a physical point of view, colors are constituted in a three-dimensional continuum which consists of (1) hue, i.e. the wavelength of reflected light, (2) saturation; i.e. to what extent a hue is 'diluted' by added shades of gray and (3) luminosity, i.e. the amount of reflected light. By the multiplicative utilization of these three qualities several million different shades can be distinguished.<sup>6</sup> This is why the domain of colors was considered to supply ideal arguments for the arbitrariness of linguistic categories for a long time:

[...] the colour patterning of man's visual world is not based upon psychological, physiological, or anatomical factors. There is no such thing as a 'natural' division of the spectrum. Each culture has taken the spectral continuum and has divided it into unions on a quite arbitrary basis.<sup>7</sup>

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<sup>5</sup> Lakoff, George 1978. *Some Remarks on AI and Linguistics*, in: *Cognitive Science* 2, pp. 267–275.

<sup>6</sup> Eysel, Ulf 1993. *Sehen*, in: Schmidt, R.T. (ed.). *Neuro- und Sinnesphysiologie*. Berlin, pp. 299f.

<sup>7</sup> Ray, Verne F. 1952. *Techniques and Problems in the Study of Human Color Perception*, in: *Southwestern Journal of Anthropology* 8, 3, p. 258.

See also Fishman, Joshua A. 1960. *A Systematization of the Whorfian Hypothesis*, in: *Behavioral Science* 5, p. 330: "The color continuum seems to be a particularly fortunate area in which to study codifiability-cognition phenomena precisely because it is a real continuum. As such, no 'objective' breaks occur in it [...]" and Gleason, Henry Allen Jr. 1955. *An Introduction to Descriptive Linguistics*. New York, p. 4: "There is nothing inherent either in the spectrum or the human perception of it which would compel its division [...]."

Berlin and Kay (1969) were the first to question this assumption.<sup>8</sup> One of the underlying hypotheses of their comparative study of color terms and a major step forward was the description of color terms through the focal points to which they refer. According to the results of their study the individual color terms do not refer to a section of the spectrum, but to one special point, the focal point of a color category.

Berlin and Kay could not offer an explanation for this. Today the existence of the foci of color terms as a consequence of psychological and physiological processes of perception is widely accepted. The experimental psychological studies of E. Rosch Heider made an important contribution to this. While all earlier works dealing with the problem of categorization were special case-studies, Rosch Heider was the first to develop a general theory, which is known as the "prototype theory". Rosch Heider was able to show that a color term refers to a focal point and receives its full meaning only by "generalization from focal exemplars"<sup>9</sup>. Color categories thus have a center and a periphery and are no longer defined by features shared by all members of a category. The less color terms are encoded in a language, the broader is the part of the spectrum covered by one color term and *vice versa*. Its center, or the focal point, to which the color term refers, remains constant. The focal point serves as a point of reference for other, less prototypical color terms. The link between members of a category is their resemblance to those prototypical representations which exist in every category. Rosch and Mervis have shown that the prototypes of a category are those members which share the most features with other members of the category.<sup>10</sup>

The findings of Rosch and others have been corroborated by neurophysiological studies which have shown that there exist fundamental categories, namely RED, YELLOW, GREEN and BLUE, and they are devoid of any other color. In addition to this the achromatic light-dark distinction of the categories BLACK and WHITE is of fundamental importance.<sup>11</sup> These color categories are thus predisposed by the neurophysiological process of

<sup>8</sup> Berlin and Kay 1969. *Basic Color Terms*.

<sup>9</sup> Rosch Heider, Eleanor 1971. "Focal" Color Areas and the Development of Color Names, in: *Developmental Psychology* 4, 3, p. 455.

<sup>10</sup> Rosch Heider 1971. *Focal Color Areas*; Rosch, Eleanor and Carolyn B. Mervis 1975. *Family Resemblances: Studies in the Internal Structure of Categories*, in: *Cognitive Psychology* 7, pp. 573–605.

<sup>11</sup> Eysel 1993, *Sehen*, pp. 300–304; Simpson, Carl 1991. *Colour Perception: Cross-cultural Linguistic Translation and Relativism*, in: *Journal for the Theory of Social Behaviour* 21, 4, pp. 416f.

color perception: "So, while it may be valid to talk of the colour spectrum as a smooth continuum, it does not follow that perception is equally smooth"<sup>12</sup>.

However, perception as a neurophysiological restriction only concerns our brain, not our mind. Visual color categories are determined by neurophysiological factors. The semantics of color terms, however, are derived from the underlying concepts, as it is concepts, not perceptions, that can potentially be understood and communicated to others. Thus, the semantics of a color term can be approached by looking for conceptual links between a term and its conceptual prototypes.<sup>13</sup>

## 2.2. Cognition and Conceptualization

Another extralinguistic factor is cognition. Here, cognition is deliberately defined widely. It includes any kind of perception and thinking on the basis of all activities of the human brain and nervous system. Lakoff describes cognitive factors as a pre-conceptual level of experience which is determined by biological factors such as our sensory organs.<sup>14</sup> This contradicts a notion of the world as a continuum which is only structured by linguistic categorization. The cognitive refutation of the hypothesis of a continuum extends to the domain of colors as well. Physically speaking, colors form a continuum, yet this is not perceived as such. The hypothesis of an arbitrary division of the continuous spectrum of colors cannot be upheld if the existence of perceptive restrictions regulating this division can be proven.

Such psychological and physiological restrictions of the perception of colors only affect the process in which the fundamental color categories mentioned above are established. All other categories are not affected by these restrictions. Thus the discrepancy between a comparative-evolutionary approach, whose arguments are based on the perception of colors, and a cultural-relativistic position, which is centered around the principles governing the cognition of colors, seems to dissolve:

The basic color dimensions along which people usually respond and the basic language divisions they usually use may be organized precisely with regard to what people see; secondary

<sup>12</sup> Taylor, John R. 1989. *Linguistic Categorization. Prototypes in Linguistic Theory*. Oxford, p. 14.

<sup>13</sup> Wierzbicka, Anna 1990. *The Meaning of Color Terms: Semantics, Culture and Cognition*, in: *Cognitive Linguistics* 1, 1, pp. 99–150.

<sup>14</sup> Lakoff, George 1987. *Dangerous Things*, pp. 269f.

terms in the language may, of course, be influenced during growth and language acquisition by diffusion or pragmatism.<sup>15</sup>

Contrary to the hypothesis of the arbitrariness of linguistic categories, cognitive linguistics is interested in finding universal cognitive influences on language. In accordance with the cultural-relativistic position a cognitive linguist analyses the influence of environmental factors on language using color terms as an example. It is assumed that the selection of perceptions, which accompanies the process of encoding, is not arbitrary but conditioned by the social and physical environment of a community of speakers:

The selections are not arbitrarily taken from a boundless store of equally weighted possibilities; rather, they are limited by the organs of perception and motivated by social and physical environments, such as those that are easy to live in versus others that demand close attention to difficulties and unpredictable events.<sup>16</sup>

Cultural discourses lead to a selection of perceptions whose encoding is deemed to be necessary. It is in this respect that language reflects the culture of its speakers. In the process of encoding new concepts, characteristic elements of the physical environment of a community of speakers play an important role which is why they are often mirrored in a language: "It seems to be a universal feature of language that color perceptions are described, at

<sup>15</sup> Bornstein 1975. *Visual Perception*, p. 786

<sup>16</sup> MacLaury, Robert E. 1997. *Color and Cognition in Mesoamerica: Constructing Categories as Vantages*. Austin, p. 393.

This assumption which does not require a notion of the world as a continuum was already formulated by Sapir in his famous statement: "The complete vocabulary of a language may indeed be looked upon as a complex inventory of all the ideas, interests, and occupations that take up the attention of the community, and were such a complete thesaurus of the language of a given tribe at our disposal, we might to a large extent infer the character of the physical environment and the characteristics of the culture of the people making use of it." (Sapir, Edward 1912. *Language and Environment*, in: *American Anthropologist*, n. s., 14, p. 228. Today Sapir's assumption is commonly shared. See for example Lyons, John 1967 [1<sup>st</sup> edition 1963]. *Structural Semantics. An Analysis of Part of the Vocabulary of Plato*. Oxford, pp. 40f.); Greenberg, Joseph H. 1964 [1948]. *Linguistics and ethnology*, in: Hymes, Dell (ed.). *Language in Culture and Society. A Reader in Linguistics and Anthropology*. New York/Evanston/London [first published 1948, in: *Southwestern Journal of Anthropology* 4, pp. 140–147], p. 28 and Neumüller, Hagen 1997. *Zwei Elefanten. Untersuchungen zu den Beziehungen zwischen Sprache und Kultur anhand ausgewählter Wortfelder des Kikuyu*. Köln, p. 181.

some stage, in terms of locally salient referents, such as certain characteristically-looking minerals, animals or plants".<sup>17</sup>

If the encoding of color terms is culturally motivated and if it reflects the influence of physical factors, then it should be feasible (1) to show that there is a relationship between environmental factors and the strategies which are chosen for encoding concepts, and (2) to correlate a cultural motivation with the encoding of color terms. These relationships will be further explored in the following chapters.

### 3. Herero Terms for Colors and Patterns of Cattle Skins

#### 3.1. Theoretical Background

The description of a relationship between environment and encoding strategies is grounded in a theory of conceptualization. This assumes that in the course of language evolution color terms may have been added to the lexicon by a transfer of certain concepts from one semantic domain to another. Color terms, then, have to be described as the results of conceptual borrowing. The principles underlying this process can be approached by analyzing such concepts. A conceptual analysis is thus centered around the search for the origin of a certain lexeme, i.e. the source concept of a term.

The encoding of terms is always governed by cognitive mechanisms which are derived from the entities of human experience.<sup>18</sup> In the process, concrete concepts, which are often derived from objects in the immediate environment, are adopted in order to understand, explain or describe less concrete phenomena. Concepts are always transferred along a hierarchical structure from concrete towards more abstract cognitive categories which function as the basic categories of human perception<sup>19</sup>:

Person > Object > Action > Space > Time > Quality

In this model the domain of colors has to be ascribed to the category QUALITY. When colors are encoded, a concept from a more concrete category is transferred to the category QUALITY. In this process different strategies of transfer or encoding can be specified.<sup>20</sup> From a theory of conceptualization, which sets out to investigate the influence of

<sup>17</sup> Wierzbicka 1990. *Meaning of Color Terms*, p. 138

<sup>18</sup> Lakoff, George and Mark Johnson 1980. *Metaphors we Live by*. Chicago, p. 125.

<sup>19</sup> Heine, Bernd, Ulrike Claudi and Friederike Hünemeyer 1991. *Grammaticalization: A Conceptual Framework*. Chicago, p. 55.

<sup>20</sup> see *ibid.*, p. 27.

environmental factors on language, metaphors are the most important strategies for encoding color terms, as they illustrate similarity in diversity. Metaphorical processes are essential to the ability to derive concepts as they possess the ability to project from structures in the physical domain to structures in abstract domains.<sup>21</sup> The transfer of a concept from one category to another is the more likely to be realized by means of a metaphor, the further those two categories are apart.<sup>22</sup>

The term "metaphor" is used in different contexts. As a rhetorical figure of speech it refers to an expression which is transferred from one context of meaning to another. It replaces the original expression to which it is linked by a factual or notional similarity. We distinguish accidental metaphors, which are a stylistic means of literary texts (e.g. "golden hair" for "blond hair"), from necessary metaphors which serve to fill semantic gaps by describing abstract or conceptually complex phenomena by means of less complex phenomena (e.g. "motor" for "car"). Contrary to generative linguistics, which regards the use of metaphors as a violation of the principle of the clear distinction of all entities,<sup>23</sup> cognitive linguistics considers metaphors as a helpful means of conceptualizing complex experiences:

Because so many of the concepts that are important to us are either abstract or not clearly delineated in our experience (the emotions, ideas, time, etc.), we need to get a grasp on them by means of other concepts that we understand in clearer terms (spatial orientation, objects, etc.).<sup>24</sup>

As metaphors are grounded in human experience, metaphorical processes may give an insight into the relationship between environment and language. This relationship is analyzed below, on the basis of Herero terms for colors and patterns of cattle. It will be shown that the prevailing encoding principle is a metaphorical process in which concepts from the

<sup>21</sup> Lakoff 1987. *Dangerous Things*, p. 281

<sup>22</sup> Heine et al. 1991. *Grammaticalization*, p. 96.

<sup>23</sup> Taylor 1989. *Linguistic Categorization*, pp. 30f.

<sup>24</sup> Lakoff and Johnson 1980. *Metaphors*, p. 115.

In the same sense Sapir, Edward 1971 [1921]. *Language. An Introduction to the Study of Speech*. New York, p. 12 had argued: "The world of our experiences must be enormously simplified and generalized before it is possible to make a symbolic inventory of all our experiences of things and relations and this inventory is imperative before we can convey ideas."

category ENVIRONMENT are transferred into the category COLORS AND PATTERNS.

### 3.2. Method

Although the variety of Herero terms for colors and patterns of cattle skins has often been remarked on,<sup>25</sup> they have never been investigated systematically. Thus, in a first step it was necessary to prepare a list of as many Herero cattle terms for colors and patterns as possible. This list was based on two different kinds of sources, the first being various grammars and dictionaries, mainly from the missionaries of the *Rheinische Missionsgesellschaft*, which to the present day can be considered as the standard works on the Herero language: Hahn (1857), Kolbe (1883), Brincker (1886, 1897), Viehe (1897), Meinhof (1909, 1910) and Irle (1917).<sup>26</sup> In addition to those, an article by Köhler (1958)<sup>27</sup> about Herero names of farms was used. Although it is fairly obvious that earlier dictionaries were used by following authors as sources for their own work, their respective dictionaries vary with regard to the numbers and glosses of terms so that it proved necessary to consider all of them.

<sup>25</sup> See Viehe, G. 1897. *Grammatik des Otjiherero nebst Wörterbuch*. (*Lehrbücher des Seminar für orientalische Sprachen zu Berlin*, vol. XVI). Stuttgart/Berlin, §31; [A.E.'s translation]: "There is a vast number of adjectives designating animals. Their majority refers to colors, but some to other properties." See also Hahn, Hugo C. 1857. *Grundzüge einer Grammatik des Hereró (im westlichen Afrika) nebst einem Wörterbuche*. Berlin, vid. i-; Andree, Richard 1878. *Über den Farbensinn der Naturvölker*, in: *Zeitschrift für Ethnologie* 10, p. 332 and Irle, J. 1917. *Deutsch-Herero-Wörterbuch*. (*Abhandlungen des Hamburgischen Kolonialinstituts*, XXXII, Reihe B. *Völkerkunde, Kulturgeschichte und Sprachen*, vol. 18). Hamburg, vid. colour.

<sup>26</sup> Hahn 1857. *Grundzüge*; Kolbe, F.W. 1883. *An English-Herero Dictionary with an Introduction to the Study of Herero and Bantu in General*. Cape Town; Brincker, P.H. 1886. *Wörterbuch und kurzgefasste Grammatik des Otji-Héero mit Beifügung verwandter Ausdrücke und Formen des Oshi-Ndonga – Otji-Ambo*. Leipzig; Brincker, P.H. 1897. *Deutscher Wortführer für die Bantu-Dialekte Othiherero, Oshindonga und Oshikuánjama in Südwest-Afrika*. Elberfeld; Viehe 1897. *Grammatik des Othiherero*; Meinhof, Carl 1909. *Die Sprache der Herero in Deutsch-Südwestafrika*. (*Deutsche Kolonialsprachen*, vol. 1). Berlin; Meinhof, Carl 1910. *Grundriß einer Lautlehre der Bantusprachen nebst Anleitung zur Aufnahme von Bantusprachen*. Berlin and Irle, J. 1917. *Deutsch-Herero-Wörterbuch*.

<sup>27</sup> Köhler, Oswin 1958. *Herero-Farmnamen in Südwest-Afrika*, in: *Afrikanischer Heimatkalender*, pp. 95–104.

As a second source for our analysis we used notes made by Michael Bollig (not published) as a part of his fieldwork in Namibia.<sup>28</sup> Between April and October 1995 Bollig collected terms for the colors and patterns of 4,634 heads of cattle among the Himba who are closely related to the Herero. Additionally, he made photos of 40 heads of cattle and asked eight informants to specify the colors and patterns of their skins. These new data confirmed the terms found in the older sources almost without exception.

After a list of color terms had thus been put together, we tried in a second step to find out the respective source concepts. In order to do this, all available dictionaries and word-lists were checked systematically, taking into account all the relevant sound laws of the Herero language, especially those established by Meinhof (1910).<sup>29</sup> The sound laws regarding prenasalization had to be applied most often. Attributive expressions for colors and patterns normally feature the initial prefix *i-* or, alternatively, *o-*.<sup>30</sup> Both prefixes lead to the prenasalization of following voiceless consonants in the following manner: *p, v > mb; r, t, z > nd; k > ng; j, tj > ndj*.

Looking for the source concepts of expressions we studied their roots in connection with the prefixes of all classes using all dictionaries and word-lists. Of course, the assignment of source concepts to terms for colors and patterns arrived at in this way is not a proof in a strictly scientific sense, but must be judged by its plausibility. The color terms were only analyzed with regard to their source concepts. Taking the semantics of the source concepts as a starting point, conceptual meanings were established which need not be identical with the actual meanings of the color terms in every-day use.<sup>31</sup>

<sup>28</sup> I wish to thank Michael Bollig, Institute of Ethnology at the University of Cologne, who did not hesitate to supply the data including his photographs which he collected during his stay in Namibia.

<sup>29</sup> Meinhof 1910. *Grundriß*.

<sup>30</sup> Regarding the use of those two prefixes Brincker 1886. *Wörterbuch und kurzgefasste Grammatik*, pp. 47; 3 [my translation] mentions: "Here it should be noted that, if *i* is prefixed, one particular piece of cattle is specified and the adjective then functions as a noun. If no particular piece of cattle is referred to, the adjectives keep their normal *o*-form [...]." See also Hahn 1857. *Grundzüge*, vid. *i-* and *Viehe* 1897. *Grammatik des Othiherero*, §31.

<sup>31</sup> In some cases it was not possible to trace a plausible source concept. These terms are not further discussed here but for reason of authenticity have not been omitted in connection with the denominations given together with the photographs, cf. e.g. *euo*, fig. 12, *ondjandja*, fig. 1 and 8.

### 3.3. Results

The systematic evaluation of the sources has shown that the Herero language possesses a great variety of terms for colors and patterns of cattle skins. The individual terms can be combined with each other so that the number of possible terms cannot be given exactly.<sup>32</sup> According to the sources, two kinds of combinations are dominant: (1) An initial color concept is combined with a following pattern concept which can be regarded as an apposition to the color; (2) a combination of a color concept with another color concept.

The analysis of the source concepts of color terms has shown that there are two dominant strategies of encoding in Herero. The most commonly used strategy is a metaphorical process in which a concept from the concrete category ENVIRONMENT is transferred to the more abstract category COLORS AND PATTERNS. The majority in this group are terms whose source concepts are derived from the domain FAUNA. In a metaphorical process characteristic hues of animal skins as well as striking patterns are used as source concepts in order to develop a detailed vocabulary for cattle skins. Unfortunately, on the basis of written sources alone it is not always possible to draw clear distinctions between color concepts and pattern concepts. Some evidence however, is provided by the photographs. Examples:

*ombahe*, conceptual meaning "yellow-brown color of a giraffe", source concept *ombahe*, "giraffe" (cf. Fig. 11, 15);

*ombahiona, ombahozu*, conceptual meaning "spotted like a giraffe", source concept *ombahe*, "giraffe" (cf. Fig. 3);

*ombambi*, conceptual meaning 'red-dark color of an antelope species', source concept *ombambi*, "antelope species, brown buck" (cf. Fig. 11, 12, 15);

*orukoze*, conceptual meaning "color and pattern of a hawk species", source concept *orukoze*, "hawk, falcon (*Falco cervicalis*)" (cf. Fig. 13, 16);

*imenje, onguenje*, conceptual meaning "spotted with a white belly", source concept *omenje*, "springbok" (cf. Fig. 2, 5, 13, 16);

*imbo*, conceptual meaning "color and pattern of an ostrich, dark-colored with a white belly", source concept *ombo*, "ostrich";

<sup>32</sup> For some examples of combined cattle terms cf. denominations given with regard of the photographs.

*ohaka*, conceptual meaning “black spots on white ground”, source concept *ohako*, “skin of a panther” (cf. Fig. 16);

*ikoara*, conceptual meaning “white around the neck”, source concept *ekoara*, “crow with a white neck” (cf. Fig. 3);

*ongange*, conceptual meaning “speckled, dark and white spotted”, source concept *onganga*, “guinea-fowl” (cf. Fig. 1, 6, 8, 9, 10, 11, 12, 16);

*onguari*, conceptual meaning “color and pattern of a pheasant, white spots on the belly”, source concept *onguari*, “wild pheasant”.

*ongongoro*, conceptual meaning “spotted like a leopard”, source concept *okakongoro*, “a leopard species” (cf. Fig. 3, 7, 8, 13, 16);

*ongorozu*, *ongoroona*, conceptual meaning “white and black like a zebra”, source concept *ongoro*, “zebra” (cf. Fig. 3);

*osemba*, conceptual meaning “white spots on a dark color”, source concept *okasemba*, “a leopard species” (cf. Fig. 5, 6).

The source concepts of three terms stem from the category PLANTS AND FRUITS:

*ekunde*, conceptual meaning “bean-colored, speckled”, source concept *ekunde*, “white edible bean” (cf. Fig. 1, 4);

*ondanga*, conceptual meaning “black-brown color of a chestnut, auburn”, source concept *ondanga*, “chestnut”

*imbonde*, conceptual meaning “color of camelthorn”, source concept *omumbonde*, “camelthorn (*Acacia erioloba*)”.

The source concepts of the remaining color terms in this group stem from the category MINERALS or other domains of the physical environment:

*ongara*, *ekara*, conceptual meaning “coal-colored, black”, source concept *ekara*, “coal” (cf. Fig. 10);

*ombaue*; conceptual meaning “speckled”, source concept *ombaue*, “glittering, speckled stone, quartz” (cf. Fig. 2);

*ondovazu*, conceptual meaning “blue-gray color of mud”, source concept *omurova*, “clay, mud”;

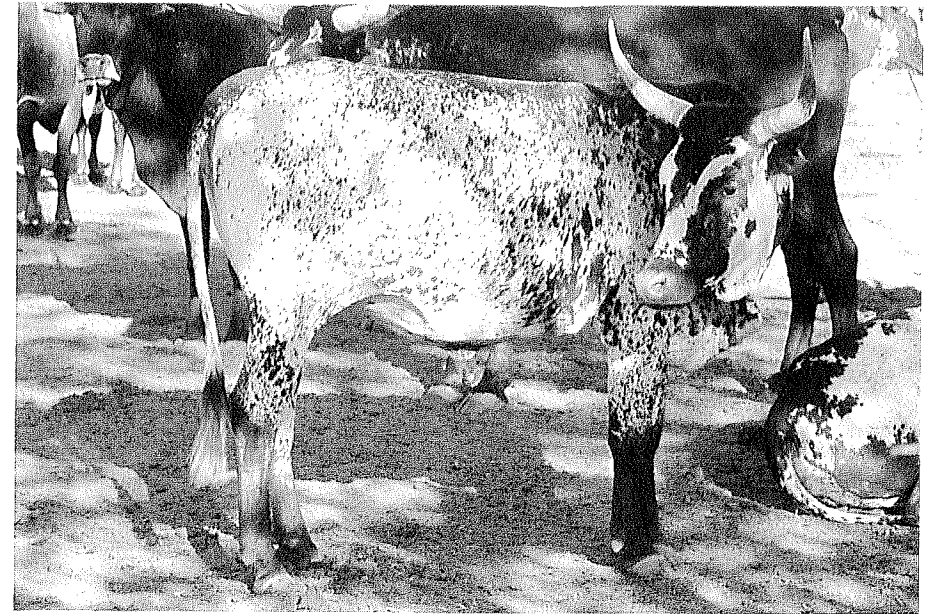


Fig. 1: *ekunde*, *ondjandja*, *ekunde*, *ongange*, *ekunde*, *ongange*, *ekunde*, *ekunde*

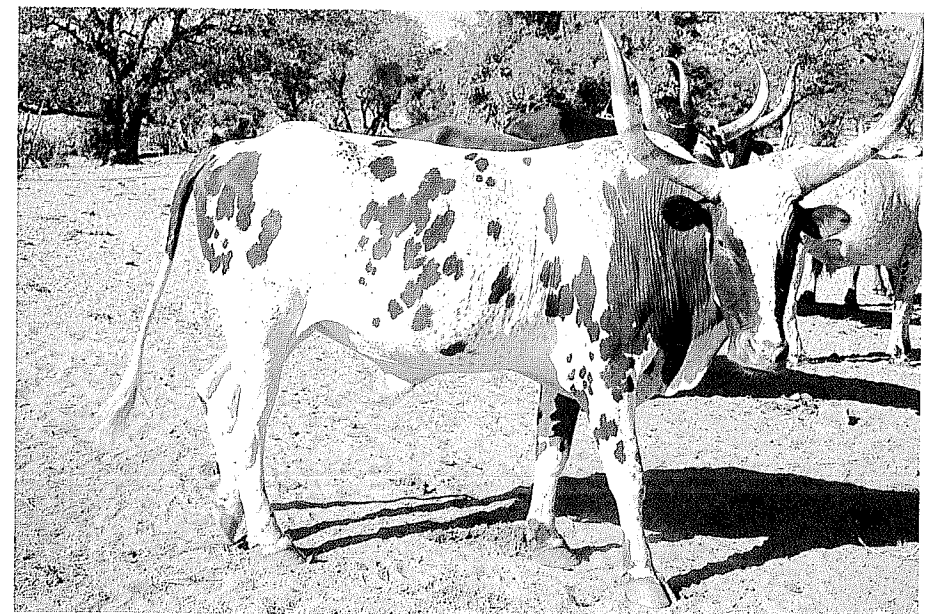


Fig. 2: *oserakuenje*, *ombaue*, *onguenje*, *ombaue*, *ombaue*, *ombaue*, *ombaue*, *onguenje*

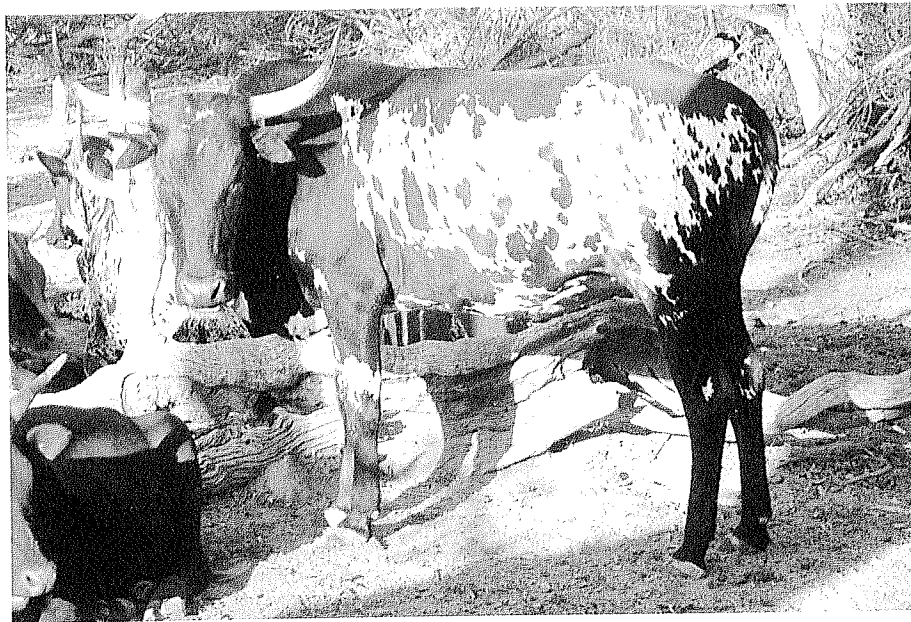


Fig. 3: *ongorozu/ongoroona, ongongoro, ombahiona; ombahozu, ongongorokange, ondamberova, ongongororumbo, ikoararumbu, ondamberova*

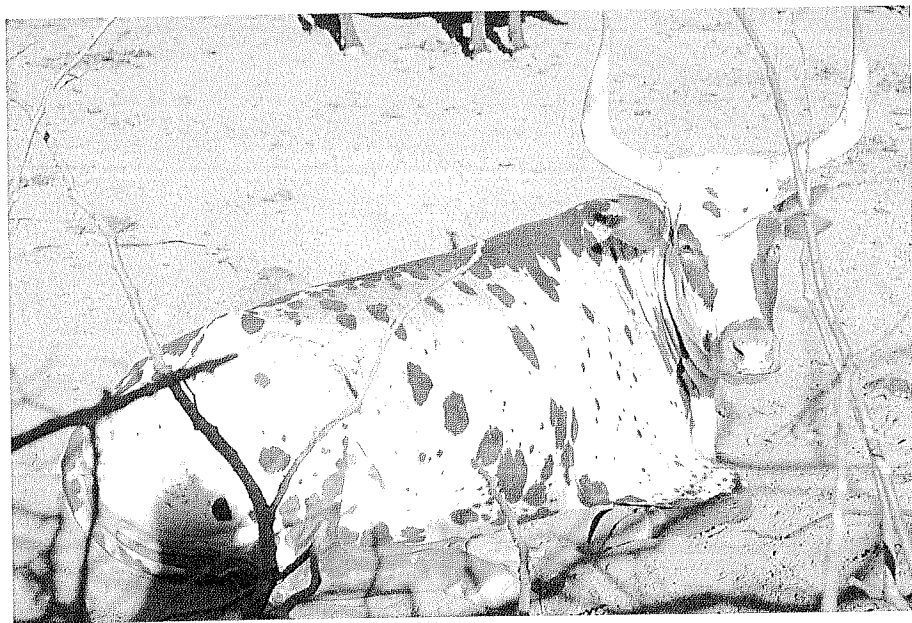


Fig. 4: *ekunde, ombahozu/ombahiona, ombahiona, ekunde, ombahiona, ombahozu, ombahiona, ombahiona*



Fig. 5: *osemba, ohatjikange, ohatjikange, osemba, onguve, onguenje, osemba-ombapa, onguve*

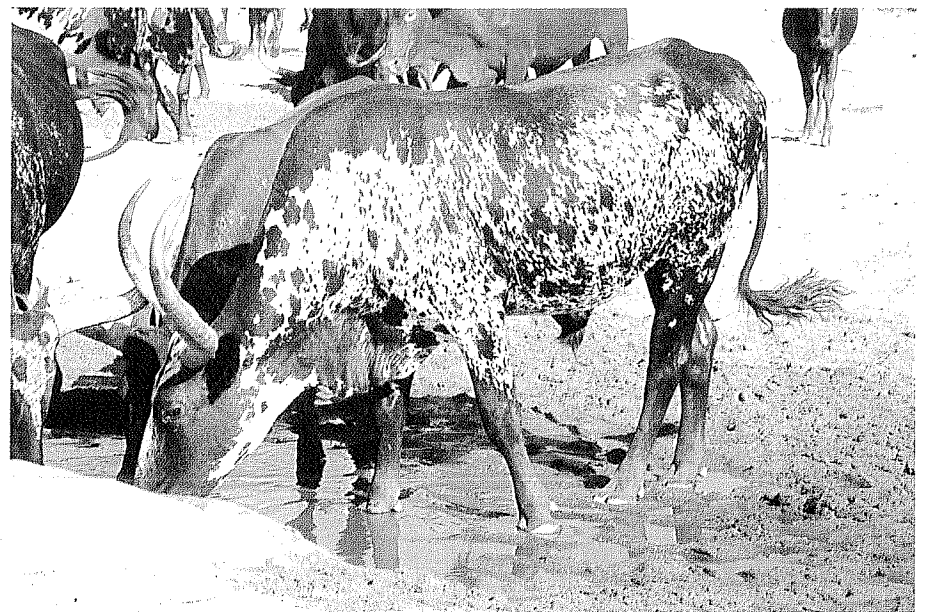


Fig. 6: *osemba, ohatjikange, osemba, ondamberova-rumbu, osemba, ondumbukange, osemba, ondemba, ongange-ohatjikange*



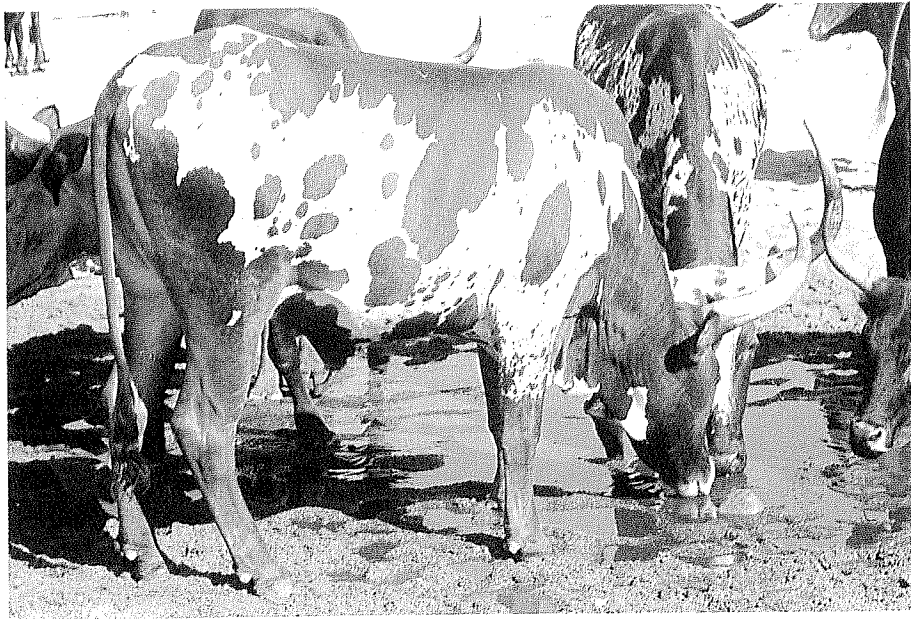


Fig. 7: *ongongoro, ongongoro, ongongoro, ongongoro, ongongoro, ongongoro, ongongoro, ongongoro*

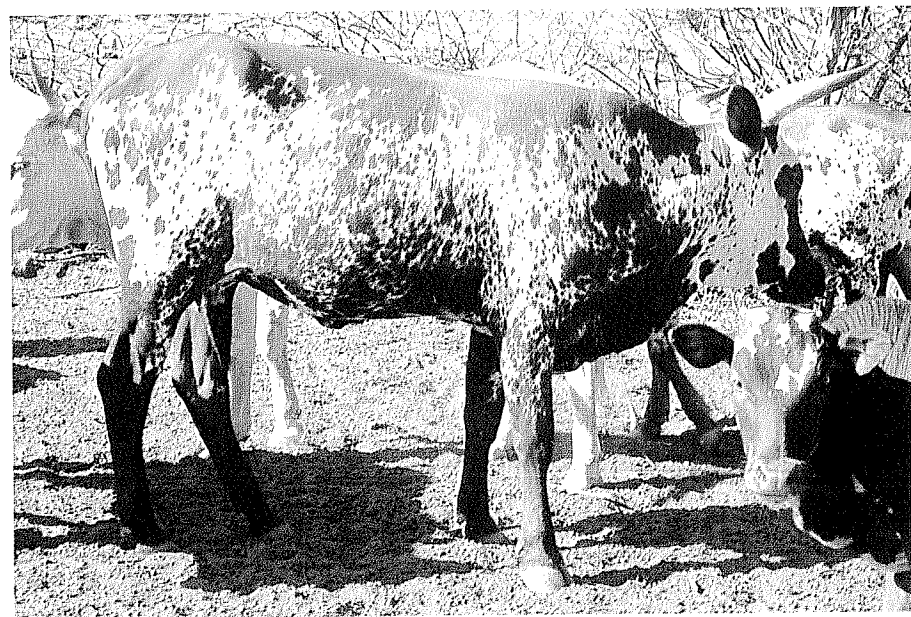


Fig. 8: *ongange, ongange, ondjandja, ongange, ongange, ongongorokange, onguarikange, ongange*

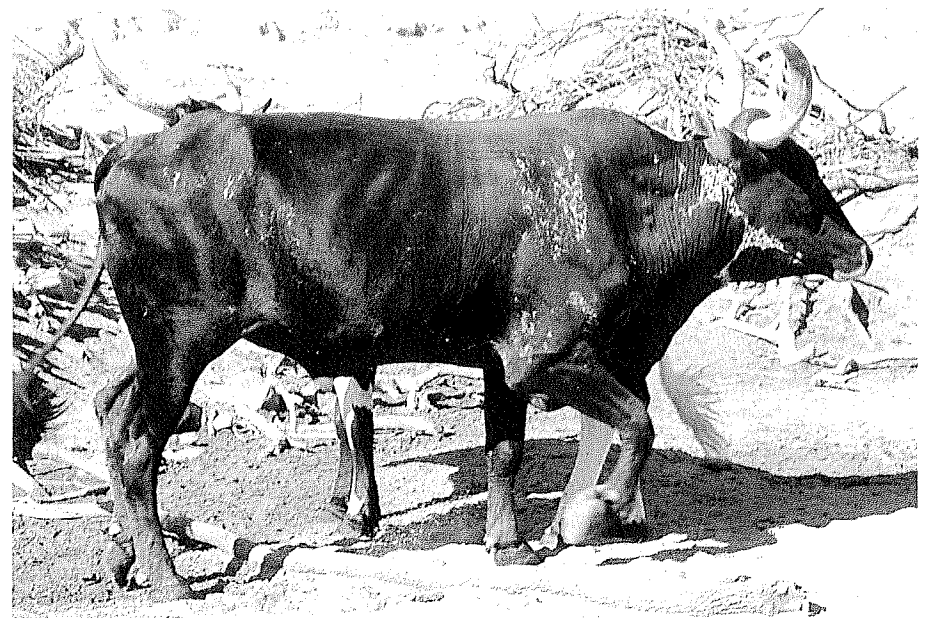


Fig. 9: *ongange, ongange, ongange, ongange, ongange, ongange, ongange, ongange*

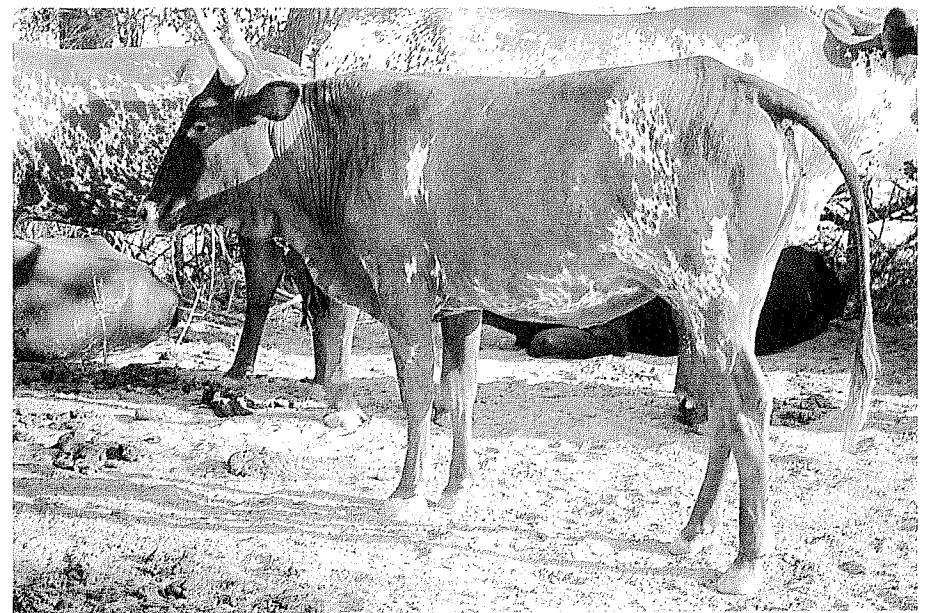


Fig. 10: *ombirizu/ombiriona, ongara, ombiriona, ongara, ombiriona, ongange, ombirionakara, ekara*



Fig. 11: *ombahekange, ombahe, ombahevambi, ombambikange, ombambikange, ombambikange, ombambikange, ombambikange*



Fig. 13: *ongongorokange, ongongoro, onguenje, orukoze, orukoze, ongongoro, ongongoro, onguenje*

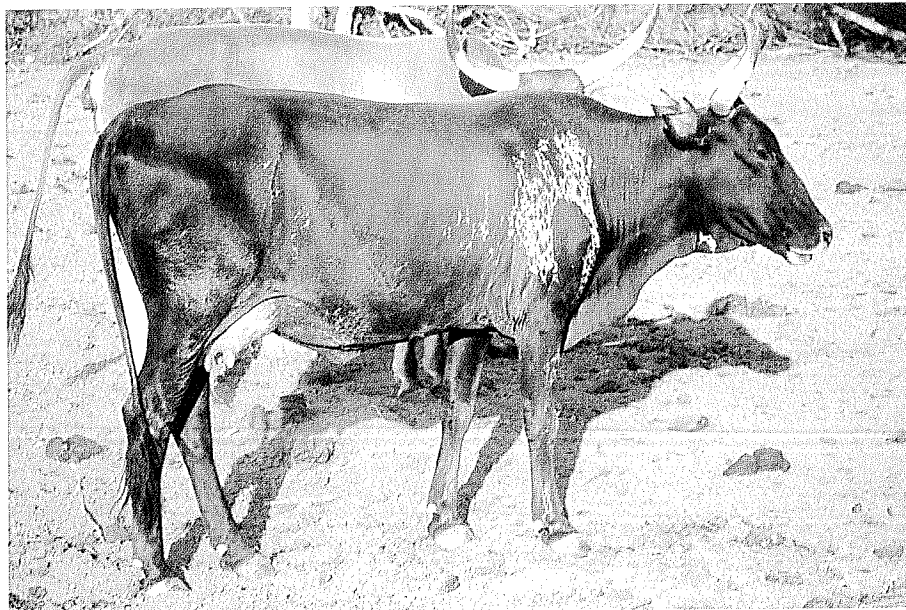


Fig. 12: *ongange, ongange, euo, ombambikange, eokange, ongange, euo, ongange*

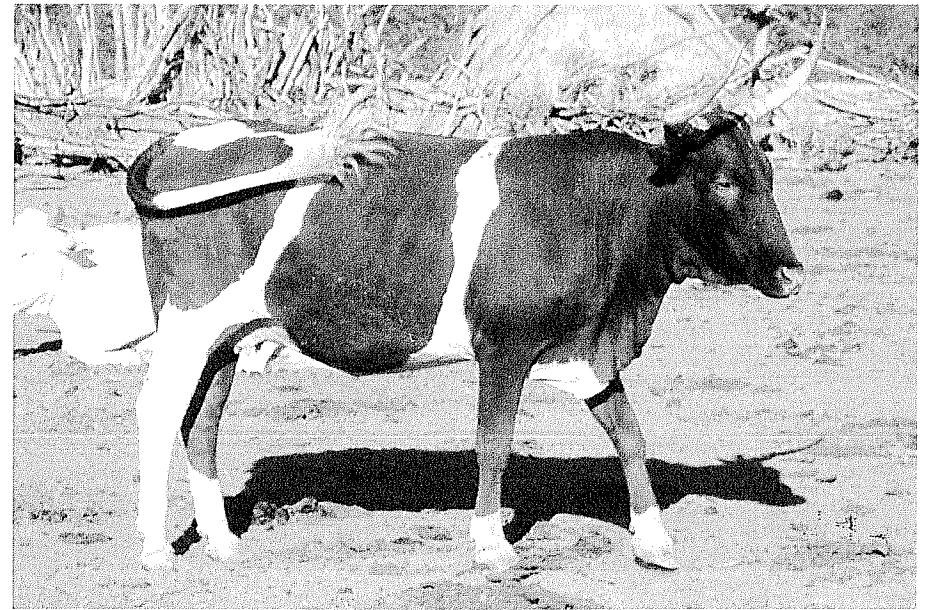


Fig. 14: *ikondo, ikondo, ikondo, ikondo, ikondo, ikondo, ikondo*

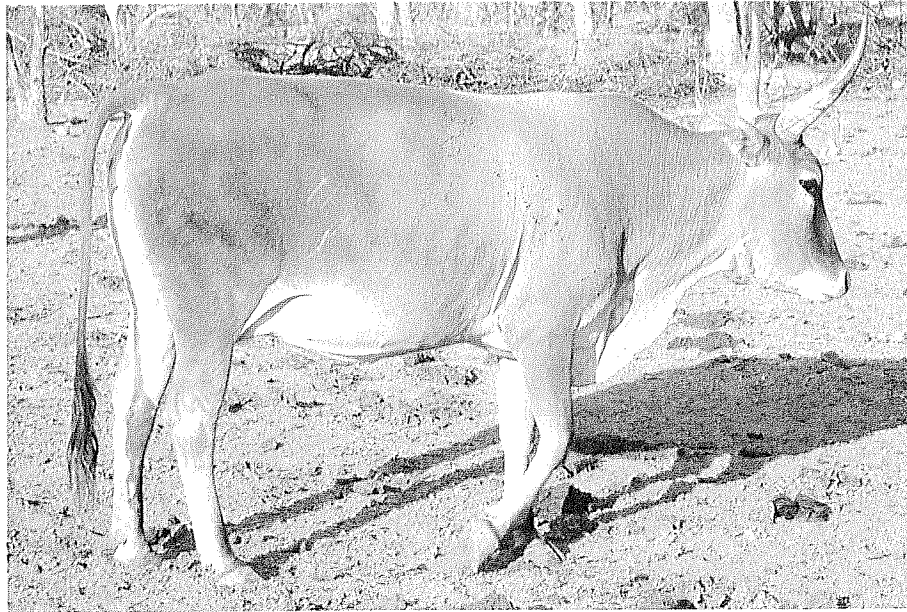


Fig. 15: *ombahe, ombahevambi, ombahe, ombahe, ombahe, ombahevambi, ombahe, ombahe*

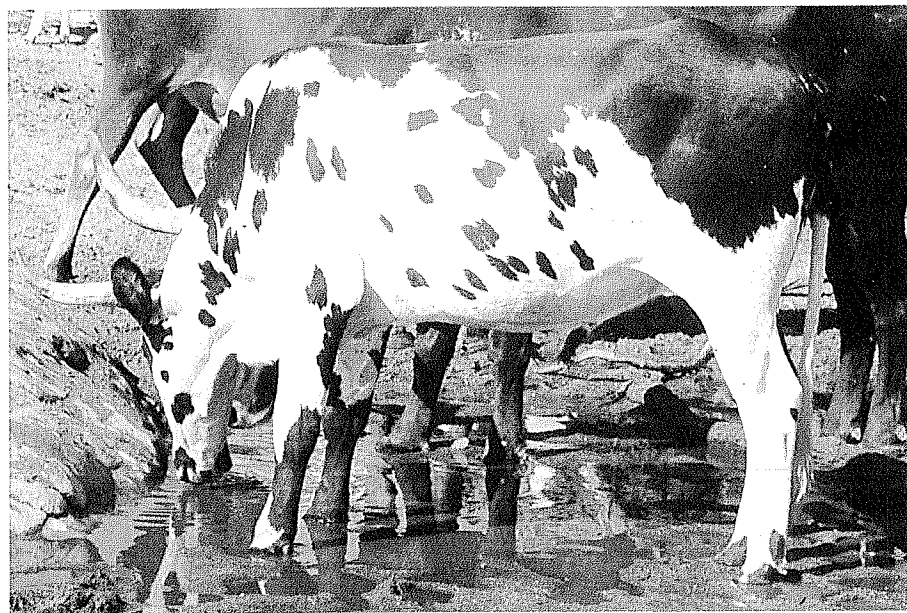


Fig. 16: *ohaka, ongongoro, onguenje, orukoze, ongongoro, ongongorokange, orukoze/ongongoro, onguenje*

*ondumbu*, conceptual meaning “brown-yellow color of dry soil”, source concept *ourumbu*, “drought” (cf. Fig. 3);

*osaona, osazu*, conceptual meaning “color of red marrow”, source concept *omasa*, “marrow, medulla”.

*ondamberova*, conceptual meaning “loam-colored back”, source concept *etambo*, “back”, and *omurova*, “loam” (cf. Fig. 3);

What all these terms have in common is that similarities regarding colors and patterns between members of one category and those of another are expressed in a cognitive process by means of a metaphor. This metaphor serves to emphasize similarity in diversity. For a theory of conceptualization this strategy of encoding color terms is particularly relevant, as it proves that environmental factors have an influence on language via a cognitive process.

As most Bantu languages, Herero has three basic color terms which can also be applied to cattle: *-zorundu*, “black”, *-vapa*, “white” and *-serandu*, “red”. The meanings of these terms can be emphasized by adding an apposition which marks their special status: *-zorundu tukutuku* “very black”, *-vapa tué* “very white”, *-serandu pju* “very red”. While *-vapa* “white” can not be traced back to a source concept, it is evident that the terms for black *zoro-ndu* and for red *sera-ndu* go back to the category PERSON, *-zoro-ndu* meaning “a black person” and *-serandu* meaning “a red person” (which is a Nama). It is likely that these personal concepts were the source concepts for the verbs *-sera-era, -e* “to be red, to glow”, and *-zor-era, -e* “to be dark”, derived by use of the applicative suffix *-era*.<sup>33</sup>

The second important strategy of encoding color terms in Herero are verbal derivations. Here color terms are encoded by transferring a concept from the cognitive category ACTION. While metaphorical processes result in either color concepts or pattern concepts, verbal derivations mainly produce pattern concepts. Similar to the derivation of the *nomina agentis*, attributive

<sup>33</sup> According to Meinhof 1910. *Grundriß*, p.137 *-era* is an applicative ending meaning “for, instead of, because of” (see also Brincker 1886. *Wörterbuch und kurzgefasste Grammatik*, appendix p. 14). Besides, in many languages an applicative suffix stresses the action expressed by the verb. There are examples of this in the Herero language as well. Irle, for example, cites the meaning of *-kuenja-era* as “to shout” (Irle 1917. *Deutsch-Herero Wörterbuch*, vid. Luchs).

forms are derived from verbs by changing the final vowel to -e.<sup>34</sup> Meinhof calls these forms “adjectives with an intransitive meaning”.<sup>35</sup> Examples:

*onguve*, *onguze*, conceptual meaning “gray, ashen”, from *-kuva*, *-kuu*, “to be dusty” (cf. Fig. 5);

*ombinde*, conceptual meaning “checked”, from *-vinda*, *-i*, “to be diagonal”;

*ongave*, conceptual meaning “ashen”, from *-kava*, *-a*, “to be emaciated, meager”.

However, most of the terms for colors and patterns derived from verbs – amongst them all those derived from transitive verbs – keep their final vowel -a or change it to -o:

*ombia*, conceptual meaning “reddish blazed patterning of the skin”, from *-pia*, *-i* “to burn”;

*ondauro*, conceptual meaning “ground color is intersected by another color”, from *-taura*, *-a* “to tear up, to brake”;

*ombotozu*, *ombotona*, conceptual meaning “dark colored”, from *-pota*, *-o*, “to be dark”;

*ongonga*, conceptual meaning “a color is crossed by another color”, from *-konga*, *-o* “to cross, to cut off, through”;

*ohengo*, conceptual meaning “off-shaded”, from *-henga*, *-e* “to appear strange”;

*ondjeo*, conceptual meaning “shining, white spot, especially on jaw or head”, from *-jera*, *-e* “to shine”;

*ikondo*, conceptual meaning “dark ground color is cut by a white stripe into two half”, from *-konda*, *-o* “to cut off, to cross” (cf. Fig. 14);

*ondemba*, conceptual meaning “with small spots”, from *-zemba*, *-i* “to forget”.

Some of the expressions listed in the sources as color terms are neither color concepts nor pattern concepts. For example, *imbutise* is a *nomen*

<sup>34</sup> Meinhof traces the final vowel -e in the formation of *nomina agentis* back to a grave -î, yet comments: “Today -e is generally added mechanically, without changing the preceding consonants.” (Meinhof 1910. *Grundriß*, p. 135; A.E.’s translation).

<sup>35</sup> *ibid.*, p. 134.

*agentis* meaning “finisher”, which in the sources is wrongly given as “dark with a white belly”.<sup>36</sup> Color or pattern terms help to distinguish heads of cattle, yet the animal at the end of the line, the “finisher”, is already clearly identified by its position and does not need to be distinguished further. This explains why we do not have a photo for this term, and why it does not appear in compounds. The same is valid for the term *omboro*, which is not based on a color or pattern concept, but designates a deaf cow (*omboro* meaning “deaf”), and the term *ombiriona* / *ombirizu*, which designates a piece of cattle which is object of a lawsuit (*ombiri* meaning “matter in dispute”, cf. Fig. 10). The term *orupera* is a case of homonymy or polysemy. Because of its specific property a cattle skin is called cape, cloak (*orupera* meaning “cape, cloak”).

Some terms can either not be traced back to a source concept (like *-vapa*, “white”) or there seems to be no evident semantic relation between a possible source concept and the color term (like *imbongora*, “dark-colored with small white spots”, from *ombongora* meaning “a man’s necklace”). There are several explanations for this. The respective terms might not be derivatives or the respective source concepts might be obsolete. However, the lack of a source concept might also imply that the color term in question is borrowed from another language.

The data collected from eight informants, each identifying 40 heads of cattle photographed by Bollig, allowed to compare the use of terms for colors and patterns by different individuals. Sixteen of these photographs are reproduced here and the respective denominations given. In most cases informants did not agree. Only in seven cases their information on the photos is 100 percent identical. Two terms are given seven times for the same animal, six other animals are unanimously identified by six speakers, in eight more cases five informants agreed. In other words, in only 23 of 40 cases, about 57.5 %, more than half of the eight informants agreed. This result may seem surprising at first, yet it can be explained if one recalls that terms for colors and patterns are technical terms used to distinguish individual heads of cattle. Such a subtle differentiation is not arbitrary. By distinguishing a wide variety of cattle terms it is possible to describe each piece of cattle individually and to distinguish it from others. If the context is

<sup>36</sup> *imbutise* as a *nomen agentis* is derived from the causative form *-putisa* of *-puta*, “to finish”. The gloss “dark with a white belly” is found in Hahn 1857. *Grundzüge*; Kolbe 1883. *English-Herero Dictionary*, and Brincker 1886. *Wörterbuch und kurzgefasste Grammatik*; *imbutise* thus being a fine example for the uncritical adoption of data presented in preceding publications.

less specific, more terms serve its purpose. Furthermore, one has to bear in mind that informants do not look at the photos without contextualizing them, but assume a context in which color terms can be differentiated.

#### 4. The Socio-cultural and Economic Background

As we have shown, the Herero language is unusually differentiated with regard to color and pattern terms for cattle skins. This differentiation is not arbitrary. The encoding of such a complex vocabulary for colors and patterns of cattle skins is evidently pragmatically motivated since color terms serve as a “distinctly recognizable mark of ownership”.<sup>37</sup>

The Herero’s herds of cattle are rarely – if ever – completely owned by the herders but include loans, donations and cattle which are inherited or temporarily given to the herder who may act as a guardian for other families’ property. Also, Herero herders divide their own property among several herds by giving part of their live-stock as loans to other herders so that risks are reduced to a minimum. In this system, the calves born in a herd always belong to the original owners of the mother animals which may be on loan or only temporarily given to the herder. In order to keep account of their own, often widely-spread life-stock including new-born calves and losses by accidents, herders have to make mental notes of every single piece of cattle and its family-tree. As the Herero do not keep written accounts and only rarely brand their cattle, they have to identify them by characteristic features such as colors and patterns.

##### 4.1. Cattle and the Patrilocl Clan *Oruzo*

In addition to this, the detailed differentiation of cattle terms has another function which is grounded in the social organization and religious beliefs of the Herero and is not immediately obvious. These social and religious aspects manifest themselves in the clan system. The social and cultural importance of cattle and their functions in daily Herero life have been emphasized earlier.<sup>38</sup> There are numerous sources regarding the cultural,

<sup>37</sup> Vedder, Heinrich 1928. *The Herero*, in: *The Native Tribes of South West Africa*. Cape Town, p. 186.

<sup>38</sup> The following observations are based on Brauer, Erich 1925. *Züge aus der Religion der Herero. Ein Beitrag zur Hamitenfrage*. Leipzig; Büttner, C.G. 1882. *Sozialpolitisches aus dem Leben der Herero in Damaraland*, in: *Das Ausland* 55, 42, pp. 828–834 / 43, pp. 852–858; Büttner, C.G. 1883. *Die Viehwirtschaft der Herero*, in: *Das Ausland* 56, 25, pp. 489–491 / 26, pp. 492–494 / 27, pp. 529–533; Dannert, Eduard 1905. *Zum Rechte der Herero: Insbesondere über ihr Familien-*

social, religious, and economic organization of the Herero people before the onset of European colonization. However, these sources are not satisfactory, as they don’t really go into detail, omit important aspects and even contradict themselves. Here, it is not our aim to analyze and discuss them one by one and in detail. Having taken into account all relevant texts, the following situation emerges:<sup>39</sup>

The Herero clan system consists of patrilocl clans (*oruzo*, plural *otuzo*) and non-local matriloclans (*eanda*, plural *omaanda*). By marriage, women become members of the patrilocl clans of their husbands, whereas the *eanda* remains the same throughout the Herero’s life. The latter are commonly described as social communities, which regulate, amongst other things, the laws of inheritance. For the *eanda*, on whose functions all sources agree,<sup>40</sup> cattle are of no significance.

For the *otuzo* however, the colors and patterns of cattle are of prime importance. The patrilocl clans, about whose creation myths little is known, have mainly religious functions, as they are important for the worship of ancestors and religious offerings. The chief of an *oruzo* is the *Mukuru*, also known as “priest-chief”. He is the youngest successor of the ancestors and represents them. He mediates between ancestors and their successors. The exact number of *otuzo* and their designations has never been

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*und Erbrecht*. PhD thesis, University of Gießen [also: Berlin 1906]; Hagolani, Elhanan 1968. *Das Kulturmodell der bantu-sprechenden Rindernomaden Südwestafrika* [sic!]. PhD thesis, University of Cologne 1967. New York; Irle, J. 1906. *Die Herero. Ein Beitrag zur Landes-, Volks- und Missionskunde*. Gütersloh; Irle, J. 1917. *Die Religion der Herero*, in: *Archiv für Anthropologie*, n. s., vol. XV, pp. 337–367; Kohler, J. 1900. *Das Recht der Herero*, in: *Zeitschrift für vergleichende Rechtswissenschaft* 14, pp. 294–319; Luttig, Hendrik G. 1933. *The Religious System and Social Organization of the Herero. A Study in Bantu Culture*. PhD thesis, University of Leiden, Utrecht; Schapera, Isaac 1945. *Notes on Some Herero Genealogies. Communications from the School of African Studies* University of Cape Town. [New ser. no. 14. October, 1945]; Vedder 1928. *The Herero*; Viehe, G. 1902. *Die Omaanda und Otuzo der Ovaherero*, in: *Mitteilungen des Seminars für Orientalische Sprachen zu Berlin* 5, pp. 109–117; Viveló, Frank R. 1977. *The Herero of Western Botswana: Aspects of Change in a Group of Bantu-Speaking Cattle Herders*. Monographs of the American Ethnological Society, 61. St. Paul.

<sup>39</sup> This situation refers to the pre-colonial period. Seemingly contradictory statements in newer sources can be ascribed to colonialist influences, especially to the consequences of the German wars against the Herero.

<sup>40</sup> For a detailed description of the eight *omaanda* and their creation myths see, for example, Viehe 1902. *Omaanda und Otuzo*; Irle 1906. *Die Herero*, pp. 87–93 and Hagolani 1968. *Kulturmodell*, pp. 25–30.

known. The numbers listed by various authors vary between 12<sup>41</sup> and 21<sup>42, 43</sup>. There are two explanations for this: Firstly, patrilocal *oruzo* are local forms of social organization so that details concerning their numbers and designation depend on the place where the information is collected. Secondly, the *oruzo* are dynamic systems which can change over time. Depending on the number of members and the economic situation an existing *oruzo* can be faced with the necessity to join another *oruzo* which means that it ceases to exist on its own. On the other hand, a new *oruzo* is established when an existing clan has grown too large and it therefore becomes necessary that a part of it forms a separate group. This explains why, contrary to the *eanda*, only few creation myths exist for *otozu*: Such creation myths usually only come into being long after an *oruzo* has been established.

There are three distinctive features for each *oruzu*, i.e. food taboos, cattle proscriptions, and cattle prescriptions:

(1) Food taboos. Some food taboos are derived from creation myths and are not connected to a specific cattle color. For example, the members of the *oruzo* of the *orajatjirungu* are not allowed to eat beef stomachs, as according to their creation myth the founder Otjirungu died after consuming it.<sup>44</sup> There are some references to other food taboos whose origins are unknown and which refer to cattle of a specific color, e.g.:

<i>oruzo</i>	food taboo
<i>ovakueneyuva</i>	cattle of color <i>indovazu</i> <sup>45</sup>
<i>eseubi</i>	cattle of the color <i>ozondaura</i> <sup>46</sup>
<i>oronguatjindu</i>	cattle of the gray color <sup>47</sup>

<sup>41</sup> Meyer in Kohler 1900. *Recht der Herero*, pp. 296f.

<sup>42</sup> Irle 1906. *Die Herero*, pp. 88f. and 1917. *Religion der Herero*, p. 154; Vivelo 1977. *Herero of Western Botswana*, pp. 215f.

<sup>43</sup> See Schapera 1945. *Herero Genealogies*, pp. 26–30 and Hagolani 1968. *Kulturmodell*, pp. 10–20 for a comparison of the differing information on number and names of the *oruzo*. The latter lists 26 *oruzo* mentioned by previous authors.

<sup>44</sup> Irle 1906. *Die Herero*, pp. 88. The violation of a food taboo is believed to have fatal consequences. An example for this is given by Sundermeier, Theo (n.d.). *The Mbanderu*. Windhoek, p. 32 [first edition 1977. *Die Mbanderu*. St. Augustin] and Vedder, Heinrich 1934. *Das alte Südwestafrika. Südwestafrikas Geschichte bis zum Tode Mahareros 1890*. Berlin, pp. 660–663 who describe the circumstances of the death of Kamaherero in 1890.

<sup>45</sup> Büttner 1882. *Sozialpolitisches*, p. 834.

<sup>46</sup> Brincker 1886. *Wörterbuch und kurzgefasste Grammatik*, see *oru-zo*.

<sup>47</sup> Irle 1917. *Religion der Herero*, p. 354.

(2) Cattle proscriptions. These proscriptions concern the keeping of cattle of a certain color by the members of a certain *oruzo*. It is not clear whether such proscriptions exist for every *oruzo*. Büttner and Irle provide the following examples:

<i>oruzo</i>	proscribed cattle
<i>ovakuatyiyi</i>	cattle of color <i>ikondoa</i> and <i>indaaura</i>
<i>oruotyipora</i>	cattle of color <i>ingange</i> <sup>48</sup>
<i>orosembi</i>	cattle of color gray-white
<i>oronguejuva</i>	cattle of color gray
<i>oronguatjindu</i>	cattle of color gray
<i>orojiporo</i>	cattle of color gray <sup>49</sup>

(3) Cattle prescriptions. In analogy to these proscriptions there are prescriptions to breed cattle of a specific color. They are the most significant distinctive feature for the distinction between *oruzo*. For every *oruzo* there are cattle of a certain color which are preferred to others and must not be slaughtered or given away in any circumstances:

The *oruzo* has its own inalienable property which is administered by the priest-chief. This property comprises in the first instance, the sacrificial animals [...] and under no circumstances may any of these animals be sold for they are only intended for the worship of the ancestors.<sup>50</sup>

The *oruzo* members are not allowed to eat the *oruzo* beef. They may, however, consume the beef provided by any other *oruzo*. If proscriptions are not violated, it is possible to keep cattle whose color differs from the *oruzo* color. As these animals are not particularly valuable to them, they often give them away to members of another *oruzo*, for whom the color in question may be of special significance.

Although all sources highlight the close relationship of *oruzo* and the breeding of cattle of a certain color, there are only few concrete examples of proscribed cattle. The most comprehensive listing of *oruzo* proscriptions and prescriptions is the one given by Vivelo for the Botswana Herero.<sup>51</sup> Vivelo's

<sup>48</sup> Büttner 1882. *Sozialpolitisches*, p. 834.

<sup>49</sup> Irle 1917. *Religion der Herero*, p. 354.

<sup>50</sup> Vedder 1928. *The Herero*, p. 186.

<sup>51</sup> Vivelo 1977. *Herero of Western Botswana*, p. 214.

study however aims at analysing major transformations in Herero society and culture, whereas our study refers to the pre-colonial period, for which Büttner gives the following examples:

oruzo	prescribed cattle
orueseambi	cattle of color <i>ozaona</i>
oruomakoti	cattle of color <i>ozondumbu</i>
orukanene	cattle of color <i>imbaoe</i> and <i>ihako</i>
ovehinoruzo	cattle of color <i>imbaoe</i> <sup>52</sup>

As these *oruzo* cattle are kept by the *Mukuru* in his herd only on behalf of all *oruzo* members, they are not sacrificed to the dead after the *Mukuru's* death. The specific color of the *oruzo* cattle always corresponds with the color of the *musisi*, the sacred bull (see below) of the legendary *oruzo* founder: "The sacred bull, the Omusisi, among the holy cattle of each clan, is the representative of the color feature of these cattle."<sup>53</sup>

#### 4.2. Cattle and Individuals

Just as the *oruzo* founder, the *Mukuru* himself and every other male Herero possesses a *musisi*, which has been termed "holy bull".<sup>54</sup> This animal is given to a child when it is born and serves as the basis of his later herd. All cattle of the same color as the *musisi* are regarded as especially valuable by their owner, who would never give them away or slaughter them except for ceremonial purposes. He singles out some cattle of these color as a sacrifice which are to be slaughtered in the case of his death. The beef of these sacrifices must not be consumed by individuals belonging to the same *oruzo* as the deceased. The number of the sacrificed cattle depends on the wealth of the deceased. Irle reports of 60 sacrificed cattle in one case and 250 in another,<sup>55</sup> while Vedder mentions 10–200.<sup>56</sup>

<sup>52</sup> Büttner 1882. *Sozialpolitisches*, p. 834.

<sup>53</sup> Luttig 1933. *Religious System*, p. 27.

<sup>54</sup> Luttig 1933. *Religious System*, p. 40.

<sup>55</sup> Irle 1906. *Die Herero*, p. 82.

<sup>56</sup> Vedder 1928. *The Herero*, p. 184. In case of the death of poor people or women and children, there are no ceremonies except the mourning (Hagolani 1968. *Kulturmodell*, p. 46).

The significance of those animals destined to be sacrificed is evident in Irle's following report in which Hagolani assumes one of the motives for the outbreak of the Herero war<sup>57</sup>:

Prior to the uprising in 1904 ignorant dealers seized these cattle by force, in order to reimburse themselves for their debts. They had to give their lives in order to atone for this deed, they were murdered by the ancestors who took revenge for the ancestors.<sup>58</sup>

Vedder describes a similar event which led to the renewed outbreak of the Herero-Nama war: After 10 years of peace the Nama had stolen those 1,500 heads of cattle which Maherero had singled out as sacrifices after his death. This act had fatal consequences:

In his fury he immediately gave orders that all Namas in Okahandja and in the whole of Hereroland should be mercilessly murdered. A terrible massacre resulted. This was the signal for fresh fights which filled the period 1880 to 1894.<sup>59</sup>

#### 4.3. Discussion

Thus every male Herero considers two cattle colors as especially relevant: the color of his *oruzo*, whose cattle are kept in the *Mukuru's* herd, and the color of his own *musisi*.

The functions of the *oruzo* clan system with its proscriptions, prescriptions, and food taboos concerning cattle have not been recognized so far. The clan system with its sophisticated distinctions of colors and patterns of cattle skins serves as a complex strategy to reduce economic risks. Firstly, the prescriptions determine which sort of cattle is preferably kept by an *oruzu*. These *oruzo* cattle form the economic mainstay of each clan and are not to be slaughtered, not even as a sacrifice to the dead. The prescriptions ensure that even after disasters such as droughts, cattle plague or wars there will always remain a stock of cattle to form a new herd. Prescriptions must therefore be considered as a strategy to avoid risks on Herero community level.

Secondly, *oruzo* prescription as well as proscriptions have the function that not all *oruzo* keep the same cattle but that different cattle, and thus as

<sup>57</sup> Hagolani 1968. *Kulturmodell*, p. 51, fn. 58.

<sup>58</sup> Irle 1917. *Religion der Herero*, p. 355 [A.E.'s translation].

<sup>59</sup> Vedder 1928. *The Herero*, p. 160.

many as possible, are bred. There is no commonly preferred color. Each color is equal, no piece of cattle is considered inferior. In a tenure system, cattle of a color which is not wanted is handed on to others, for whom the color in question is of special significance. Thus there are always some people who prefer cattle of a certain color so that, as a result, all cattle are valued and treated with care and are continuously redistributed.

On an individual level *oruzo* prescriptions are complemented by the preferred keeping of cattle of the color of the own *musisi*. These cattle are not given away either and may only be killed for ceremonial purposes – for example as a sacrifice to the dead. The beef from those sacrifices must not be eaten by the members of the *oruzo* to which the deceased person belonged. In addition to food taboos related to cattle of a specific color, this food taboo, combined with the preference of cattle of a specific color by individuals of a clan, has the same function as *oruzo* prescriptions and proscriptions on Herero community level: They all serve to reduce risks and to distribute vital resources over the whole population.

## 5. Conclusion

This essay has shown that Herero uses complex strategies for the encoding of terms for colors and patterns of cattle skins. By analyzing the encoding strategies we have shown the influence of environment on language. The transfer of a concept from the category of ENVIRONMENT – another important category being ACTION – to the category of COLORS AND PATTERNS was found to be the dominant strategy. This transfer was referred to as conceptualization. In the context of conceptualization metaphorical processes are employed in order to establish categories. Metaphors are a means to express cognitive similarity in diversity. In the case of Herero cattle terms for colors and patterns they are mainly characteristic hues as well as striking patterns of different animal skins which served as a source concept.

Further, it has been shown that the establishing of the category of COLORS AND PATTERNS is not to be considered arbitrary. The encoding of such a detailed cattle vocabulary is directly linked to the central role cattle play in Herero culture and has two main functions: On the one hand, it serves to clearly distinguish animals of different origin and ownership. On the other hand, it is a means to minimize economic risks. The *oruzo* clan system with its cattle proscriptions, prescriptions and food taboos is based on the distinction of cattle according to their colors and patterns. Cattle of any color are considered sacred for a special *oruzo* group. For any individual Herero there are cattle of a special color and pattern which he

will never slaughter even if he and his family is suffering from hunger. Thus, in times of crisis such as drought or rinderpest there are always some heads of cattle left – given that not all the cattle have died – as a means of reproduction in order to restock the herd. It is in this respect that the differentiation of cattle according to their colors and patterns is a means to minimize economic risks.

Thus, while environment plays an important role by providing source concepts in the encoding process of cattle terms, the socio-cultural and economic background of the Herero community is the crucial motivation for the encoding of such a highly differentiated vocabulary relating to colors and patterns of cattle skins.