

GRAMMATICAL NUMBER, NOMINAL SUBCATEGORIZATION, AND TECHNIQUES  
FOR THE APPREHENSION OF OBJECTS. II: THE OPERATIONAL APPROACH.

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RESUMEN

De la crítica hecha en la parte I a los tratamientos tradicionales se extraen aquí las conclusiones que constituyen el punto de arranque para el tratamiento operacional. En primer lugar se pone de manifiesto cómo todos los intentos de describir la lengua como un sistema de categorías pasan por alto la naturaleza dinámica del sistema de la lengua. Otra fuente de numerosas contradicciones y circularidades es la equiparación del significado gramatical y lexical; para su solución se aplica aquí la teoría de los niveles semióticos y, más concretamente, de la naturaleza metalingüística del significado gramatical. Para entender el funcionamiento del número gramatical en relación con las subcategorías nominales es necesario introducir un nivel descriptivo superior, el de las técnicas de INDIVIDUACION, de las que las categorías no son sino cristalizaciones o sedimentaciones lexicales. Estas técnicas se ordenan en un continuo funcional que se manifiesta entre otras cosas en el hecho de que los exponentes formales constituyen una escala de gramaticalidad, es decir un gradiente de abstracción formal. Las invariantes son funcionales, es decir son hechos de correlación, y no pueden ser situados unilateralmente ni en el plano de la expresión ni en el plano del contenido.

GRAMMATICAL NUMBER, NOMINAL SUBCATEGORIZATION, AND TECHNIQUES FOR THE APPREHENSION OF OBJECTS.

II. THE OPERATIONAL APPROACH

1. *Language is not a category system.*

All attempts aimed at establishing a one-to-one relation between formal and content (semantic or "real") categories have been vain. Such a relation can only be obtained by means of arguments that, as long as they are not circular, are automatically contradictory. For example, it is often maintained that abstract nouns, mass nouns and proper nouns are not pluralizable because of their meaning; as a consequence of this postulate they cannot be regarded anymore as abstract nouns, etc., when they are put in the plural, the roots are then claimed to belong to another (formal and semantic) category. For Chafe (1970: 108ff, 140) the nucleus of EGL. *three beers*, SPA. *tres vinos/aguas* must be distinguished from the one standing in constructions of the type *a glass of beer, un vaso de agua/vino*; the former results from the latter by addition of a derivational unit called "countizer". In the case of EGL. *rope* (GER. *Seil*, SPA. *cuerda*) it is on the contrary an individuable (*the rope tightened, das Seil straffte sich, la cuerda se puso tensa*) that is transformed into a mass noun by adding the feature (derivational unit) "massifier". A count noun is characterized "as having a meaning which involves a class of separate individuals", unlike nouns such as *wood* "whose meaning involves an undifferentiated mass" (l.c. 108).

In the rest of this section I will delve deeply into the problems arising from a purely taxonomical description of language. To sum up the results in advance we will ascertain that (a) many nouns belong to more than one class, (b) there are many cases of transition and uncertain membership, (c) the criteria used to delimit noun classes are neither exhaustive nor ex-

clusive nor unequivocal they do not comprise all the stock of nouns; they do not sufficiently delimit the categories; abstracts, mass nouns...as well as proper nouns are pluralizable, but under quite different conditions.

To begin with, when abstract nouns are defined from the point of view of lexical semantics, i.e. taking into consideration the generality scale (the "Skala der Anschaulichkeit" of Hempel) without resorting to grammatical properties in an underhand way, then it is not possible to mark the boundaries of this semantic category by means of grammatical properties. Even if the grammatical property consisting in being derived from verbs or adjectives is included in the definition we find in the field of abstracts all the formal characteristics underlying the classification of the remaining nouns, to such a point that some linguists and philosophers have tried to explain them away (to eliminate them as a special category) by overweighting the formal traits they share with one of the others. They have been identified with proper nouns.<sup>1</sup> In view of the fact that they can occur in all the syntactic contexts considered as characteristic of individuates, viz., with both articles, non-numeral and numeral quantifiers, different types of determiners, in singular and plural, they have been equated to individuates.

- (1) *Er verurteilte das Eindringen vietnamesischer Truppen als eine gefährliche Bedrohung des Friedens*
- (2) *He fears any strong contact*
- (3) *Wir wollen diese Unterscheidung auf die Funktions-  
verben anwenden*
- (4) *The Minister had talks with his Spanish colleague on further agreements*
- (5) *The conversations have reached a stalemate*
- (6) *Der junge Anwalt wurde schon vor drei Fortsetzungen überfahren (Kishon)*

With all the more reason they could be regarded as equal to continuatives:

- (7)a. *Er dankte den Zuhörern für ihr zahlreiches Erscheinen*  
 b. *Dio las gracias a los oyentes por su nutrida asistencia*  
 c. *He thanked the audience for their large attendance*
- (8)a. *Ich genoss wie ein verhungertes Hund den Brocken Wärme, den Schluck Liebe, den Bissen Anerkennung*  
 (H. Hesse)  
 b. *Disfruté como un perro famélico el pedazo de calor, el trago de amor, el bocado de reconocimiento*  
 c. *I relished as a ravenous dog the bit of warmth, the sip of love, the morsel of gratitude*
- (9) *Die Gegend kann 30 Tannen Staubauswurf pro Stunde nicht verkraften*

Expressions like *viel Einfluss/Ungemach, mucha influencia/mucho infortunio, much influence/misfortune, mehr Verstand, más conocimiento, more knowledge, so viel Kritik, tanta crítica, much attention, much courage...* are of very frequent occurrence. The opposition between infinitive and other nouns with a greater degree of nominality can be compared to the opposition between continuatives and individuatives.

I am not advocating for a subclassification of "abstracts" parallel to that of "concretes"; on the contrary, I am rejecting the principles of the classification itself. Most nouns can be used according to several schemes. The technique COLLECTION is as frequent among "abstracts" as among "concretes".

The definitions of "collectives" we find in grammars and articles treating of this subject

In der Sprache besteht ein Bedürfnis, bei gewissen Personen oder Dingen eine Vielzahl als Einheit zusammenzufassen und mit einem Singularischen Nomen zu bezeichnen (Wahrig: Deutsches Wörterbuch: 130)

Grammatische Einheitsformen für Vielheitsinhalte (Wellmann 1969: 64).

Le nom collectif désigne un ensemble, une collection d'êtres ou d'objets: foule, tas, groupe, valetaille, ramassis, clientèle (Grevisse, Le Bon Usage: 168)

do not sharply separate collectives from nouns designating a mass such as *Reis/rice, Kies/gravel* or from individuatives designating objects composed of individual elements such as *Regal/shelving, shelves, Skelett/skeleton, even Baum/tree...* No wonder that some grammarians consider as continuatives or individuatives nouns that others classify as collectives; for example, Leisi (1971:32) includes among collectives words such as *Zug 'train', Bibliothek 'library, bookshelves', Dorf 'hamlet', Stadt 'city', Wald 'forest, wood', etc.* In all morphological subclasses of the category 'collectives' we find many abstracts, "die Einzelhandlungen zu einem Gesamtvorgang zusammenfassen" (Wahrig Wörterbuch:130): *Vormundschaft 'tutela; tutelage', Bürgschaft 'garantía; guarantee'; Gebrumm 'mujido; moo', Gezank 'pelea; fight', Gekicher 'risoteo, giggle', Geplärre 'griterio; shouting'; Fischerei 'pesca; fishing', Anpöbeleien 'abuqueo, hooting', Schurkerei 'canallada, dirty trick'; Epigonentum decadentismo, decadence', Strebertum 'arriivismo, arrivism', Siechtum padecimiento crónico, chronic illness', Reichtum 'riqueza, riches', Wachstum 'crecimiento, growth', etc.<sup>2</sup>*

The definitions of collectives generally involve the idea of individual elements, objects..., which makes them hardly applicable to abstracts; this difficulty is more obvious

if we deal with abstract individuatives; to speak of concretization amounts to avoiding answering the question of the pluralizability of abstracts, it is the fallacy of explaining a fact from another that rests on it for explanation. From the premise that collectives involve at the same time unity and plurality Admoni comes to the conclusion that the plural is a superfluous form, but

sie wird notwendig in den Fällen, wenn nicht von einer ununterbrochenen Vielheit die Rede ist, sondern von vielen solchen Vielheiten, die voneinander getrennt sind (in Raum und Zeit), jede für sich eine Einheit bildend: *das Gestirn* (eine geschlossene Einheit von Sternen) – *die Gestirne* (mehrere von solchen geschlossenen Sterneinheiten, die voneinander abgegrenzt sind), dementsprechend: *das Gebirge* – *die Gebirge*, *das Geäst* – *die Geäste*, *das Gefilde* – *die Gefilde* (Admoni 1970<sup>3</sup>:92)<sup>3</sup>

Admoni admits that this holds only for collectives "mit ausgesprochen räumlich – gegenständlicher Semantik", it is not suitable for collectives "mit gegenständlicher, aber nicht konkret – räumlicher Semantik (*Gebälk*, *Gelumpe*, *Getüfel*, *Gewölke*)<sup>4</sup> und auf fast alle Sammelnamen mit der Semantik eines Prozesses (*Gebell*, *Geplänkel*, *Geplauder*, *Gezänk*, *Gezeter* usw." (p.92)<sup>5</sup> According to Admoni one could have in mind the recurrent barks with separated temporal and spatial existence in a hunting party with hounds and thus want to use the plural

aber in der deutschen Sprache gibt es solche Formen nicht (mit Ausnahme einiger Sammelnamen, die die Semantik eines Prozesses eingebüsst haben und die einer Begebenheit erhalten haben (*das Gemetzel* – *die Gemetzle*, *das Gespräch* – *die Gespräche* (Admoni 1970<sup>3</sup>:92-3).

It is not impossible to put all the other nouns into the plural, even though the frequency of this form may be very low. At any rate the ontological reasoning involves a pseudo-

semantic circularity or contradiction. Although he admits that *Geplauder*, *Gezänk*... have the same (lexical) meaning as the process verbs from which they are derived, the fact that these nouns show (grammatical) characteristics of collectives or individuatives leads him to consider them as concretes. He introduces a new term for the corresponding special type of objects (*Begebenheiten* = events, happenings) by way of restoring the desired order between semantic and morphosyntactic properties. The only reliable argument that leads him to think that the denotation consists of individual countable elements (events, etc.) is the pluralizability of the nouns. The discrepancies between Admoni's classification and other classifications are due not so much to different ways of looking at things as to the weight attached by each one to the morphosyntactic properties. Events concerning mental activity, perception or feelings such as *Empfindungen*, *Gefühle*, *Wahrnehmungen*... (sensations, feelings, perceptions...) are usually considered as objects (like *Gespräche*, *talks*, *conversations*...); the true reason is that the nouns occur in plural as often as *Fisch/fish/pez*, *Haus/house/casa* or *Mensch/person/persona*, i.e. as nouns pertaining to the prototypical instance of the category; but it is not difficult to find counterexamples: *Wut*, *Zorn*, *Sicht*, *Furcht* (*ire*, *anger*, *rage*, *sight*, *fear*) and many other nouns designating specific emotions or sensations are as a rule transnumeral; like *colour/Farbe/color*, *virtue/Tugend/virtud*, etc., nouns of the former type are second-order individuatives classifying first-order concepts apprehended as objects, they are in other words exponents of second-order classificatory operations.<sup>6</sup> For the same reason Admoni does not include nouns of corporations and social institutions among abstracts:

*Staat*, *Klasse* usw. Das alles sind dinghafte Wesen in der realen Wirklichkeit selbst, nur dass sie eine eigenartige Existenzform haben. Es sind normale Gattungsnamen, die auch normale Pluralformen haben: *Staaten*, *Klassen*,

*Gesetze* usw. Wenn z.B. Bezeichnungen der einzelnen Klassen die Pluralform sehr selten ist (solche Formen wie *Bourgeoisien*, *Proletariate* klingen ganz ungewöhnlich), so hat es seinen Grund darin, dass man es hier eigentlich mit einer Abart der Sammelnamen zu tun hat (Admoni 1970<sup>3</sup>:92).

If we put aside the question of frequency and regard pluralizability as an absolute criterion as to ascertain when we are dealing with a "reales, dinghaftes Wesen" then we are left without abstracts. Even words such as *Liebe* 'love' and *Glück* 'happiness, luck' are sometimes put into the plural.<sup>7</sup> Admoni himself illustrated this fact with a literary example:

(10) *Man denke hierbei nur an Glücke, wie der Rasumowski*

The uselessness of a classification where formal concepts are not strictly distinguished from lexical meaning shows up in the following statement:

In den Sammelnamen sind sowohl Stoffnamen als such Abstrakta vertreten (Admoni 1970<sup>3</sup>:94).

There are of course noticeable differences concerning frequency that may be regarded as indicators of deeper grammatical differences; by no means of differences between lexical meaning, since the lexeme can be pluralized by means of other grammatical techniques: *Liebesaffären*, *Zornausbrüche*, *Wutanfälle*, *Glücksfälle*, *Glückswendungen*; *fits of coughing*, *strokes of luck*; *ataques de furia*, *golpes de suerte*; *Käselaike* (=cheeses), *Brotlaibe* (=loaves of bread), etc..<sup>8</sup>

McCawley (1975) acknowledges that the distinction [ $\pm$  countable] is not determined by any property of the things included under the words; two words may be predicated of the same denotation and have nevertheless very different grammatical properties:

There is clearly no difference between noodles and spaghetti that can be held responsible for the fact that *noodles* is a plural count noun but *spaghetti* is a mass noun (in English, this is not in Italian) nor is there such difference between garlic and onions or between rice and beans... The same entities can be described as footwear or as shoes, as furniture or as chairs. (McCawley 1975: 314).

He is, however, convinced that there is a difference in meaning and regards consequently the duality "the data that are referred to by a plural count noun and the data that are referred to by a mass noun" as a case of homonymy. He overlooks that most nouns are pluralizable, the functional equivalence of mass nouns and plural individuatives (individuatives can be used in constructions considered as characteristics of mass nouns precisely because of the pluralization) and above all that countability is not a discrete characteristic that may be indicated in the lexicon by means of a single trait [ $\pm$ countable].<sup>9</sup> He ultimately admits that this doesn't carry any explanation for the concept of individuation

Actually, I am not completely sure that I am making a claim that has any content when I claim that the meanings of count nouns specify an individuation but those of mass nouns do not. (l.c.314).

Starting from the observation that most nouns can be used in either way and that countability is not a basic dichotomy because it can be decomposed in a lot of syntagmatic factors Allan (1980)<sup>10</sup> concludes that

countability is not in fact a characteristic of nouns per se, but of NP's; thus it is associated with nouns in syntagmata, not with nouns as lexical entities. (Allan 1980:546).

However, nouns have "computable countability preferences" (l. c. 548 ). The fact of the matter is that nouns can be ordered in a squish according to a battery of tests representing just as many quantificational contexts:

	EX-PL <sup>1,1</sup>	A + N	ALL + N	F + N	O + DEN
car	+	+		+	+
oak	+	+	+	+	+
cattle	+			+	
Himalaya	+	+			
scissors	+				
mankind	+	[+]	+		
admiration		[+] <sup>1,2</sup>	+		
equipment		[+]	+		

This shows that a classification of nouns as [±countable] does not amount to much, that pluralizability and countability are not discrete characteristics of a clear-cut class of nouns, and that concepts like 'abstract' cannot be explained with the help of such grammatical properties. In group 5. abstracts such as *sincerity, admiration, heat, thunder, darkness...* coexist with names of languages or sciences: *physics, Irish, Cornish...* (others such as *Greek, Russian, Chinese* belong to group 2.); in group 7. we find gerunds such as *thinking, knowing, smiling* along with *equipment, lightning, ornithology...*

The following examples show that NP's can be ambiguous too:

- (11) *Put some apple in the salad*  
 ' Tu etwas Apfel/einige Apfel in den Salat '  
 ' Pon algo de manzana/algunas manzanas en la ensalada '

- (12) *Mary had a little lamb*  
 ' M. hatte ein bisschen Lamm/ein kleines Lamm '  
 ' M. tenía un poco de cordero/un cordero chico '

This ambiguity cannot be explained unless we admit that the noun pertains to two categories. Thus categorial aspects must be taken into consideration. In German *Bier/Wein...* combine with a numeral without being pluralized; on the other hand plural individuatives can appear in measure constructions like the unmarked form of mass nouns: *eine Kiste Bücher, zwei Kilo Äpfel*. The contrast between *eine Kiste Zigarren* and *eine Kiste Wein* shows that *Zigarre* belongs primarily to the technique GEN/NUM as well as to the corresponding morphosyntactic category of individuatives, in which the technique is partially crystalized; it can be used in a measure construction without thereby losing the traces of its primary class-membership. Plural individuatives can take quantity specifiers characteristic of mass nouns: *viel Äpfel - viele Äpfel, viel Neuigkeiten - viele Neuigkeiten*; in Spanish, however, they must be in singular: *mucha manzana - muchas manzanas, mucha novedad - muchas novedades*.

For German a certain functional equivalence may be assumed between mass nouns and plural individuatives, whereas in Spanish facts point rather to ambivalence or categorial neutrality of many nouns: *zwei Tonnen Sand - 2 Kilo Äpfel, dos toneladas de arena - dos toneladas de manzanas/de manzana*. The following examples show that there is in general a certain functional equivalence of mass nouns (transnumeral singular) and plural individuatives:

- (13)a. *Wasser ist eine, farblose Flüssigkeit*  
 b. *Kaninchen sind eine Tierart/ein Nagetier*
- (14)a. *Water is a liquid*  
 b. *Rabbits are voracious*

- (15)a. *El agua se evapora a 100 grados Celsius*  
 b. *A los leones les gusta la carne fresca*
- (16)a. *Öl kommt aus verschiedenen Quellen*  
 b. *Äpfel sind eine gesunde Nahrung*
- (17)a. *Rice is scarce*  
 b. *Owls are widespread*
- (18)a. *El vino es perjudicial para la salud*  
 b. *Los carros contaminan la ciudad*

The use of the morphological plural like a mass noun is lexicalized in some pluralia tantum: they do not combine with numerals (\**zwei Ferien/Kosten/Trümmer*), but they can occupy the position of a mass noun in measure constructions (*zehn Monate Ferien* like *zehn Monate Urlaub, dos meses de vacaciones - dos meses de descanso/de permiso*), *50 Mark Spesen*, etc.

Pluralization does not entail a transfer of individuatives to the category of mass nouns, it is on the contrary a categorial trait and a constituent operational trait. In contrast nouns like FRE. *connaissances*, EGL. *clothes, dregs*, GER. *Ferein*, SPA. *vacaciones* lack free interplay of singular and plural; number is not a constituent operational trait of the technique MASS/MEASURE; the neutralization of number as such, i.e. transnumerality, points to a less grammaticalized technique. But it does not follow from this that plural nouns are in general like mass nouns in the morphological plural; the fact that \**two clothes* is not wellformed reveals that it is not a true plural from a functional point of view; in addition the fact that these plurals are marginal cases of lexicalization shows that pluralization has a scarce naming power. Pluralization does not entail per se a categorial shift, eventhough it makes possible the transfer of the class of individuatives to the individuation technique to which mass nouns are primarily associated, in other words to the ope-

rational scheme MASS/MEASURE. The use of the morphological singular as a transnumeral implies on the contrary a true categorial shift as in the case of SPA. *manzana, pera*, etc., for the same reason pluralization of mass nouns results in a change of category. The assimilation is not yet achieved if we take into account the fact that *manzanas* does not trigger an interpretation as plurality of kinds; but it seems that not every prototypical mass noun admits this interpretation (for example, GER. *Wasser*, SPA. *agua*).

None of the morphosyntactic characteristics leads to a subcategorization of nouns in the sense of a clear-cut rigid system of disjoint sets. All these morphosyntactic characteristics together mark out a system with a dynamic equilibrium. The aforementioned facts point to a gradual transition from the category of individuatives to the category of mass nouns along a lot of intermediate steps represented by constructions that are more or less characteristic of the technique MASS/MEASURE or the technique GENDER/NUMBER:

1. *a book, books, many books, two books; \*two books* (as kind plural) as opposed to *two beers, two milks*.
2. *vacaciones, muchas vacaciones, \*dos vacaciones; gastos, muchos gastos, \*dos gastos*
3. *viel Äpfel*
4. *viele Bier, zwei Bier*
5. *viel Bier, much water, 3 wines* (kind plural)

Nouns of the first instance take the individualized, the individutive plural, non-numeral quantifiers and enumerative quantifiers, but the reading 'several kinds of' is not possible. In 2. the opposition SG - PL and the combination with numeral quantifiers are not possible (transnumeral plural). The example of 3. shows that in German a MASSive quantifier can combine with a plural individutive. The examples of 4. illustrate the opposite combination of an individutive quantifier with the transnumeral singular. 5. represents the pro-

totypical instance of mass nouns.

If the opposition SG - PL as such can be viewed as an essential trait of individuation, pluralization itself has a desindividualizing effect. There is also a gradual shift in the opposite direction, i.e. from mass nouns to individuatives. Expressions like *two milks, three oatmeals...* are quite frequent at least among people working in the restauration business; in Spanish expressions such as *tres cafés, dos vinos, etc.*, are very frequent in common parlance, others like *tres sangres* belong to the usage of nurses and doctors; in the corresponding constructions German nouns take the morphological singular (transnumeral from a functional point of view): *drei Kaffee, zwei Bier...*

The tendency to use such constructions increases with the habit of handling certain products in standard portions; for this reason they are considered in many other cases as anomalous (*\*drei Sand, \*tres arenas...*). At any rate the phenomenon cannot be explained by stating that they are elliptical constructions (instead of *drei Tassen Tee, drei Sack Sand, etc.*), since in many cases it is precisely the omission of the words needed to complete the construction what must be made responsible for the anomaly; in other cases it is difficult to say which word has been omitted (for example, in *tres sangres*). There is by no means a clear-cut distinction between normal and abnormal expressions: the difference is a gradual one.

The operational and the structural aspects have to be clearly distinguished; this doesn't mean that there is no correlation between them; operations require structures, but structures represent only one aspect of the operations, they are the static support and outcome of the operations; certain formal characteristics of the nouns are nothing but crystallizations of operational traits; thus individuatives can be viewed as inherently individuated nouns.<sup>13</sup> The changes at the level of structures are not unforeseen and chaotic, on the contrary they take place in an ordered, programmlike way. Before

"abstract" nouns can be assimilated to individuatives (*zwei Schüsse, dos disparos, Tode und Geburten, deaths and births..*) they may occur as collectives (*Schiesserei, tiroteo, generation*), as continuatives (*there is much goodness in him, er hat viel Erfahrung, dos horas de arresto; un peu de patience*), as mensuratives (*una carga de leña, ein Schub Rosinen, a touch of salt/of irony*); they are also frequently used according to the scheme of individuatives, and in the opinion of some linguists *goodness in goodness is a property* should be considered as a proper noun.<sup>14</sup> As we have already seen, it would be wrong to speak in all these cases of categorial changes; GER. *Bier* doesn't lose qua lexeme in *drei Bier* its transnumeral character, eventhough the construction as such may be considered as plural; similarly *Bücher* in *eine Kiste Bücher* or *horses* in *a harras of horses* do not lose their individutive characteristics. Moreover, it is because of the plural that individuatives may occur in MASS and MEASURE -constructions (*eine Kiste Buch, \*a harras of horse*); as it has been shown in Iturrioz 1986/ID-I, some generic NPs may be considered as abstract as far as they cannot be paraphrased by means of a universal quantifier. Individuatives are more intricate than what can be ascertained in the framework of a naïve and rigid dissection of language. The singular can induce a collective or generic reading in typifying sentences:

(19) *Der Hund ist treu 'dogs are faithful'*

(20) *Der Deutsche ist ordentlich 'Germans are orderly'*

The plural can take quantity specifiers characteristic of continuatives, as in *viel Äpfel*, etc. Up to this point they can be said to designate the class (kind, species, etc.) itself<sup>15</sup>

(21) *Der Walfisch gehört unter die Klasse der Säugetiere*



but a kind - plural is not yet possible:

- (22) *Dogs (= kinds/races of dogs) are faithful*<sup>16</sup>

Proper nouns can be used as appellatives

- (23) *Dieser Wagen ist ein Opel*  
 (24) *No soy ningún Rockefeller*  
 (25) *This village is a miniature Paris*

and as mass nouns:

- (26) *Ich trinke nur Kognak*  
 (27) *J'aime boire du cognac*  
 (28) *Sólo bebo Rioja*

As common nouns *Don Juan* and *Casanova* mean 'womanizer, lady-killer', *Don Quijote* means 'defender of just causes', etc.. It would be exaggerated to regard them as new lexical entries without any connection with the proper nouns; understanding the predicative meaning of these words entails knowledge about the real or literary personages the corresponding proper nouns stand for; *Einstein* cannot be predicated of any person other than Albert Einstein unless one associates the name with outstanding features of this person (for ex., intelligence); hence when this pragmatic knowledge is no longer necessary in order to understand such a predication (for ex. in *he is a quisling*), we can say that the word has become established as a common noun in the lexicon<sup>17</sup>; it is not a sudden process, but a gradual, slowly progressive one taking place by degrees.

Appellatives such as *Sonne/sol/sun/soleil*, *Teufel/devil*, *Himmel/sky*, *Hölle/hell*, *Mond/moon*, etc., are generally used like *Saturn* or *Jupiter* to designate single things, thus bearing a strong resemblance to proper nouns. On the other hand family names are used in the singular number to designate several mem-

bers of the same family (*die Müllers*, *los Suárez*), several works of the same artist (*three Picassos*), etc. In the case of expressions like *30 Grad Celsius* or *9 Öchle* we may recall to mind the persons who developed these scales, whereas EGL. *watt*, *ampere*, SPA. *Jersey*, FRE. *barème*, *silhouette*, etc. have become fully independent of the proper nouns; the assimilation to the phonological structure as in SPA. *baremo*, *amperfo*, *vatio*, *neutonio*, *einstenio*, etc., replicates in the second articulation the semantic process by which these words become full predicates. Common nouns can become proper nouns (SPA. *Herrero*, *Carnicero*, GER. *Fleischer*, *Hirt*, EGL. *Taylor*, etc.). GER. *Vater*, *Mutter*, SPA. *padre*, *madre* are used among brothers and sisters like proper nouns.<sup>18</sup>

Basing the classification on semantic definitions cannot help these "difficulties". For example, nouns usually labeled as collectives are neither morphologically or syntactically nor semantically a homogeneous category. German grammars deal usually with collectives in morphology because of the productivity of many suffixes such as *-heit*, *-keit*, *-tum*, whereas in English grammars they are often dealt with in syntax because of the fact that certain collectives (especially those designating living beings: *family*, *audience*, *people*...) can take plural verbs:

- (29) *My family are early risers*  
 (30) *The public are requested to remain seated*

From a semantic point of view, GER. *Familie*, *Wald*, EGL. *forest* may be defined as a group of persons or trees, but it is a mistake to call them collectives if they do not present any grammatical property distinguishing them from individuatives.

It is not difficult to base on syntactic criteria the distinction between the two classes of collectives mentioned in part I. Only total collectives can combine with what Leisi calls specifiers, i.e. numeratives or numeral classifiers:

*ein Stück Vieh*, a head of cattle, a piece of furniture, \**ein Stück Herde*, \**ein Mitglied Familie*... If the function of numeratives consists in establishing the unit in terms of which quantities or numbers may be expressed (3 pieces of furniture, 3 Stück Vieh...), then we come to the conclusion that transnumerality is the essential character of these type of collectives, eventhough from the point of view of morphology they are in singular; in Indo-European languages there is not a special morphological 'transnumeral', unlike Semitic and many other families of languages (*samak* 'pescado, fish' - *samake* 'a fish' - *samakāt* 'fishes'), but the opposition singular-plural is in these cases neutralized and the singular is thus functionally equivalent to a transnumeral. They resemble in this point mass nouns. The plural is also used in a like manner, albeit in a small number of cases: GER. *Ferien*, *Kosten*, *Spesen*, *Chemikalien*, *Naturalien*, *Trümmer*, *Personalien*, *Textilien*, *Schliche*, *Umtriebe*, EGL. *dregs*, *sweepings*, *proceeds*, *belongings*, *measles*, *ricketts*, *blues*, *creeps*, *contents*, *data*, *groceries*... Singular and plural may be exceptionally equivalent (EGL. *ash-ashes*); in general the plural seems to point out the inner complexity, the diversity of the constituent parts, heterogeneity, etc. (SPA. *tijeras*, *pantalones*, EGL. *scissors*).

According to the grammaticality parameters group collectives bear a strong resemblance to individuatives, whereas T-collectives (=transnumeral collectives) have more features in common with mass nouns. In order to fulfill the individualizing principle T-collectives need explicit syntactic means. There is a functional equivalence between NPs whose nucleus is an individuative (*three men*) and *Numeral + N.CLF. + collective noun* (3 Stück Vieh, 3 cabezas de ganado, 3 heads of cattle). Many languages lack the category of individuatives or the grammatical opposition SG - PL is restricted to a few names of humans or animals (for example, Chinese, Thai, Khmer, Vietnamese, Korean, Yacalteco, Tzeltal, Palauan, etc.); numeral classifiers are one of the techniques supplying this lack: VIET *bôn con mèo*

'4 cats' (lit. 4 - animal - cat); *con* has the same individualizing power as *Stück*, *head*, *cabeza* and *mèo* shares the grammatical properties of *Vieh*, *ganado*, *cattle*; these nouns actualize by themselves only a generic reference; for enumeration or even for specific reference the classifier links noun and numeral: it supplies the individualization principle for the transnumeral noun, thus making it countable; in other words, it is an individualizer (unit counter). On the other hand G-collectives (=group collectives) and enumerative quantifiers combine without any connecting part; they can in addition play a role like that of numeratives: *eine Herde Kühe*, *un rebaño de ovejas*, *a harras of horses*; they establish a higher order unity as a basis for countability. To a certain extent their function is opposed to that of unit counters; more exactly, the generalizing principle and the individualizing principle are counterbalanced; G-collectives are an intermediate step between T-collectives and individuatives. There is another class of collectives designating not an indefinite number of individuals, but a totality: *Menschheit*, *Christenheit*, *Beamtentum*, *Arzteschaft*; *Christendom*, *professorate*, *humanity*, *mankind*... They do not allow an extensive definition: *das ist Vieh* - \**das ist Arzteschaft*, *this is cattle* - \**this is mankind*. To a certain extent they may be regarded as a grammaticalization of the generic reading of common nouns (*humanity* = *human beings*, *Christendom* = *Christians*), but they do not occur in grouping constructions, unlike plural individuatives and transnumeral collectives: *a group of Christians* - \**a group of Christendom*.

Mass nouns resemble in every respect transnumeral collectives; for the task of individualization (segregating a portion or a quantum of a mass) they combine with mensuratives (quantity specifiers) before they can take numerals: *three cups of tea*, *eine Ladung Holz*, *dos cargas de leña*; they are transnumeral, i.e. neutral with regard to the opposition singular - plural as well as with regard to the referential opposition existential - universal etc. But there are also noticeable sys-

tematic differences implicit in the concept mensurative vs. numerative<sup>19</sup>; in addition mass nouns can easily change over to the technique GENDER/NUMBER, T-collectives not so; plural mass nouns trigger a special reading, namely a plurality of kinds, T-collectives not so.

The categorial differences result from differences in the interaction between the operational traits in each technique and call thus for a new more dynamic conception of language. Instead of speaking of different types of objects we have to reconstruct the techniques used by languages for grasping objects, i.e. for the apprehension of objects (individuation). We need a conception of language as activity and of its grammatical categories (among them gender and number) as crystallizations of this activity. In the framework of a functional and dynamic model many aspects, considered so far as irregularities because of the fact that they represent deviations from a network of rigid categories, can be grasped as regularities at a higher generalization level. Among other things the role genders and numbers play in the different techniques can be explained without falling into circularity or contradiction, i.e. without considering abstracts as individuatives through the mere fact that they take the plural form. The concept of object itself must be seen in the light of the linguistic techniques of individuation.

The apparent irregularities give rise to contradictions when one attempts to describe the language as a system of (formal or semantic) categories and categorial traits, to establish a constant static correspondence between formal and semantic categories or to explain the formers by means of the latter. This conception is based at least on the following mistakes

- A. To each category corresponds a category of objects.
- B. Individuatives constitute the basis of the system; the

rest can be characterized as a sort of deviation from the prototype which may be accounted for by means of constraints in the use of the plural, articles and cases.

- C. The basic character of individuatives results from the fact that nouns of the other classes tend to become individuatives, which frequently gives way to mixed classes and ends in the complete conversion of abstracts, collectives and continuatives in individuatives.

What leads linguists to the idea mentioned in A. is the fact that the formal means pointed out in B. cannot determine the number of classes to be established according to C. •

Aber im ganzen fließen die grammatischen Merkmale der verschiedenen Klassen zusammen, was sie in Verbindung mit vielen Schwankungen und Übergangsfällen innerhalb der einzelnen Klassen zu sehr verschwommenen grammatischen Wortarten macht und vor allem als semantische Einheiten charakterisieren lässt. Von grammatischen Kategorien darf hier keine Rede sein. Es sind eben semantisch - grammatische Substantiv - Klassen. (Admoni 1970<sup>3</sup>:93).

This is exactly the conclusion I wish to avoid. Behind the observed variation there is an order, but not a categorial one; the invariants are found neither at the level of meaning nor at the level of expression, but rather in the principles that rule the correspondence between the variations at the level of expression.

All the facts above mentioned show a gradual transition between subcategories. A purely taxonomic approach leads to a more and more tangled subclassification in smaller classes of nouns; such a classification lacks any usefulness and any explanatory power. This is a problem every extensional definition of lexical categories (understood as "word-classes") is faced with, not the existence of homophony, ambivalence or categorial indistinction, but

a more genuine kind of 'overlapping' or shading-off between classes, and no clear-cut dividing line. If syntactic and other criteria show some words to be clearly class X, for example, and others class Y, then it is the case that there are usually other words which share some of the characteristics of X and some of Y, forming a kind of 'bridge' class, assignable to neither. Moreover, it is typically the case that there is not one such class, but a number of partially overlapping subclasses. The situation, in fact, strongly resembles gradience phenomena. (Crystal 1967:50).

Crystal analyses in full detail the gradience adjective - adverb in English, but similar results would be obtained if we analyse the distinction N - V, etc., or even the subcategorization within lexical categories. Categorical aspects cannot be explained separately, but in the framework of operational programmes. The most elementary conclusion we can draw is that the words 'individuating' and 'continuative' do not designate so much a distinction between words as between ways of using them.<sup>20</sup> The basic concepts are not categorial, but operational.

Two other types of solutions have been sought by way of avoiding such difficulties: the one consist in a greater and greater diversification of classes (see for example Moravcsik 1970), the other in an artificial reduction by means of identifying abstracts with continuatives, continuatives and collectives with proper nouns or with individuatives,<sup>21</sup> the bare plural of individuatives and the other generic NPs with proper nouns for kinds,<sup>22</sup> etc. As a last consequence this procedure, consisting in highlighting some characteristics and neglecting others, led to a fundamental opposition between singular and general terms; with the subsequent elimination of proper nouns the transfer of nouns to the category of predicates is completely finished. The only trace of "nouniness" in the logical calculus resulting from the regimentation of natural languages are variables; these constitute a special individuation technique like numeral classifiers; more exactly, they occupy the leftmost position of the classificatory techniques and do not

strictly speaking divide nouns into classes, even though they express some general concepts corresponding to semantic traits of the nouns.<sup>23</sup>

The "explanation through elimination" is anything but an explanation. Nevertheless it indirectly shows what grammatical categories are for: the elimination of gender and number leads not merely to the unification of the nominal subcategories, the category 'noun' itself disappears. The elimination of a quite grammaticalized technique such as GENDER/NUMBER leads to a new start of the individuation programme: VARIABLES are a very predicative technique. At any rate it was necessary to restore the nominal function, since without a solution to the fundamental task of individuation no language can operate. When grammatical number or, more exactly, the technique GENDER/NUMBER was effaced the techniques VARIABLES rendered possible quantification and the other constituent operational traits of INDIVIDUATION. Gender, number and other "surface" things were eliminated from the "deep" representation because their function was unknown. If nouns, adjectives and verbs are gathered in the same category 'predicate' (in other words, if we consider only the least specific of the noun functions: predicativity), then the specific contribution of nouns to the linguistic apprehension of the world cannot be suitably grasped.

In consequence of this settled mode of thinking logicians and linguists, instead of asking how a language fulfills the task of apprehending objects, directly deal with objects, that are supposed to preexist language and whose properties are reflected in the language in an imperfect, sometimes even contradictory way.

The difficulties facing every categorial approach arise in part from the supposition that "collective", "abstract", etc., are mutually exclusive possibilities. A noun cannot be classified as abstract and collective, as abstract and individuating, etc.; even though the abovementioned examples seem to point to the contrary, the most widespread opinion is that

rope, *pelo*, *Tuch*, etc., are polysemic nouns. It is even more difficult to maintain, without falling into contradictions, that *shooting* or *firing* and *shot*, *Schiessen* and *Schuss* belong to the same subcategory because they do not denote things, but actions, despite of the fact that *shot* and *Schuss* are from a grammatical point of view individuatives like *car* or *Fluss*. It is necessary to distinguish the (lexical) content which may be abstract in the sense of the generalization scale, from the grammatical form and on the other hand the general functional invariants (generalization – individualization) from their specific interaction forms constituting the techniques; *firing* is abstract in a sense that has nothing to do with the generalization level of the lexeme *fire*; pluralization of abstract nouns has the effect of strengthening the principle of individualization whereas the plural of individuatives may on the contrary have the effect of bringing them near to mass nouns or abstracts. In the case of *shot* or *Schuss* there is in addition the loss of the essential operational traits of the technique ABSTRACTION<sup>24</sup>: they are not nominalizations of *shoot* and *schiessen*; they do not present any variability in the saturation of argument places because they do not leave at all the places belonging to a nominalized predicate, and for this reason pluralization has the same effect as in the case of prototypical individuatives<sup>25</sup>; it makes no sense to say that in *shots* the plurality of one of the arguments has been transferred onto the abstract noun or that the plurality of the abstract noun reflects plurality of anyone of the arguments as in the case of prototypical abstractives. These and many other aspects cannot be adequately grasped except in an operational way. *Shooting* and *shot* are the same lexeme in different apprehension techniques; from the point of view of this grammatical dimension the former is an abstract, the latter an individuative, i.e. an inherently individuated noun. Individualization qua principle shouldn't be confused with the specific way of individualization of individuatives; neither should it be confused with the fact that certain lexemes denote persons, animals, etc. i.e. with the

fact that they have semantic traits such as [+human], [+animate].

## 2. Distinguishing semiotic levels<sup>26</sup>

If lacking pluralizability is considered as a proof of abstractness, then all nouns in many languages of the isolating type (Chinese, Khmer, Viet, Thai, Japanese...) would be abstract; they do not designate by themselves an individual, nor do they designate a plurality of individuals, not even a collection or a mass ("man sagt schon zu viel, wenn man sie Totalkollektiva nennt", Hempel 1956/7:390). They do not have any specific categorial mark, contrary to what happens in German, Spanish, French and many other languages, where each noun is assigned to a gender, where one necessarily has to choose a grammatical number (nouns are in singular or plural, morphologically and syntactically: agreement) and where at least individuatives<sup>27</sup> can hardly be used in neutral form with regard to reference:

Wie im Thai ist auch hier [im Vietnamesischen] das unerwartete Nomen eine völlig referenz – und numerusneutrale Benennung... (Kölver 1982: 169).

Die Nomina selbst in diesen Sprachen liefern hingegen lediglich Benennungen "als solche", begriffliche Inhalte, frei sowohl von referentiellen wie individualisierenden Bestimmungen; es sind einfach Begriffsbenennungen. (Kölver 1982: 175).

This doesn't mean, eventhough the last statement seems to suggest this idea, that all nouns are abstractives apprehending concepts as objects, nor must they be considered as proper nouns of abstract entities.<sup>28</sup> What Kölver wants to make clear is the fact that nouns in analytical languages are not inherently individuated. In

(31) *tôì mừôn mua sách*  
 VIET I would like buy book

*sách* is neutral, its interpretation as set, concept, definite or indefinite reference to one or more individuals depends on the context. Numeral classifiers provide the indications making possible an explicit reference to individual objects; otherwise the nouns cannot combine with a numeral, except in the case of unclassified nouns (see Kölver 1982:179ff). For this reason they have been compared with mass nouns of Indoeuropean languages (*Wein - ein Glas Wein, tea - a cup of tea*), because these need specifiers in order to designate objects, i.e. in order to be made countable:

<i>drei Rinder</i>	<i>*drei Vieh(e)</i>	<i>drei Stück Vieh</i>
<i>tres vacas</i>	<i>*tres ganados</i>	<i>tres cabezas de ganado</i>
<i>three cows</i>	<i>*three cattle(s)</i>	<i>three heads of cattle</i>
<i>drei Flaschen</i>	<i>*drei Milch(en)</i>	<i>drei Flaschen Milch</i>
<i>three tables</i>	<i>*three furniture</i>	<i>three pieces of furniture</i>

The constructions of the first and third columns are isofunctional, so that a language could totally lack individuatives (i.e. inherently individuated nouns) and nonetheless fulfill the function of INDIVIDUATION by means of syntactically complex techniques. However, it would be a mistake to identify without further ado all nouns of analytical languages with the flexive category of continuatives or collectives.<sup>29</sup> It would be likewise wrong to identify them with predicates arguing that they are not, by themselves, designations of individuals. It is certain that INDIVIDUATION does not leave any trace at the morphological level; there are no morphologically differentiated noun classes as in flexive languages, even if they can be said to belong primarily to the technique MASS/MEASURE or to the technique N.CLF and thus be considered as mass nouns or as nouns classified by N.CLF appearing next to them under

certain conditions. It remains, nevertheless, that the number opposition 'singular - plural' inheres in most nouns of fusional languages while in languages with N.CLF nouns in general are neither singular nor plural, but rather neutral, number indifferent, i.e. transnumeral. In Chinese *\*san shu* 'three books' is as ill-formed as *\*i shu* 'a book'. In both cases a numerative or "unit counter"<sup>30</sup> must be inserted. This is exactly what happens with *cattle*: *\*three cattle, \*a/one cattle, a head of cattle*.

Indo-European languages have a basically individualizing genius, unlike agglutinating and analytical languages that have a basically typifying (generalizing) drift. There are however in these languages certain classes of nouns with an undivided and reference neutral form; that is, it is not always unavoidable to choose a number and a specific reference marker. This way we find within the same language an opposition that has been used in order to distinguish two types of languages. The facts set forth in detail in Iturrioz 1986/ID point to the position in the grammaticalization scale as fundamental difference between the techniques; the specific interplay of the constituent operational traits of the dimension (1. systematic interaction with quantification, 2. systematic interaction with reference, 3. systematic interaction with the main predicate) depends on the position; i.e. on a set of grammatical criteria and not on the lexical meaning. This does not mean that there is no correlation between both semiotic levels (see below), but the assignment of nouns to different techniques (in the same language or in different languages) is not determined by a difference in lexical meaning.<sup>31</sup>

It is wrong to apply to the analysis of lexical structures concepts developed in the grammatical analysis and vice versa. From a lexico-semantic point of view Arabic *samak* is as abstract as German *Fisch*, English *fish* or Spanish *pescado*, Chinese *ren* as English *man*, etc. There is a paradigm of techniques for the apprehension of objects, i.e. for the individuation of nouns

and the same noun may be assigned to different techniques. Spanish *pez* is inherently individuated (GEN/NUM); Arabic *samak* is a collective noun: from that a singulative can be formed and from that the plural: *samak - samakat (samaka, samake) - samakāt*. German *Fisch*, English *fish* can be treated as trans-numerals within the technique MASS/MEASURE (like Spanish *pescado*) or as individuatives within the technique GEN/NUM (like Spanish *pez*): it is not easy to say which technique they primarily belong to; the same holds for Spanish *pelo, cabello, hierro* and many other nouns. The opposition *leña-leño, madero-madero, hueva-huevo...* points to the complementary principles of generalization/individualization in the technique MASS/MEASURE (like Arabic *samak - samaka*), whereas the couples *grilla-grillo, porra-porro, polaca-polaco* on the one hand and *temática - tema, problemática-problema, casuística-caso* on the other hand point to the same difference in the techniques COLLECTION and ABSTRACTION.<sup>32</sup> *Pelo* is an individutive when it is opposed to *pelos*, but it must be considered as mass noun as opposed to individualizing constructions with mensuratives: *un montón de pelo* (or *un montón de pelos*, see above), like *un kilo de pescado*, etc. In Chinese, Viet, Thai and many other languages the use of numeral classifiers is required for nouns that in Indo-European languages undergo the technique GEN/NUM: *i-g ren* 'a man' (1 - CLF - man), *ba con meo* '3 cats' (3 - CLF - cat). Only in the operational framework of techniques and therefore at a higher semiotic level may be answered the question if a noun, or a noun phrase, designates an individual, a group, a mass, etc. The traditional contradictions and circularities derive in a good part from the fact that formal concepts are systematically confused with semantic predicates, what leads among other things to the wrong supposition that for an Arab or a Chinese the concept "fish" is more abstract than *pez* for Spaniards. *Pelo* is as abstract in *poco pelo* as in *pocos pelos*, *pez* is as abstract as *pescado*, and the same goes for English *foliage - leaves*, German *Obst - Früchte*, Spanish *fruta - fruto*, etc. Formal exponents are metalinguistic signs,

they are indicators of second order operations that can not be described in terms of lexical semantics. This is specially evident in the case of numeral classifiers, which repeat a semantic predicate contained in the lexical meaning of the classified noun, thus making reference to the code.<sup>33</sup> They do not function as noun determiners.

### 3. Formal abstraction and functional invariants

The techniques can be arranged on a scale of formal abstraction, whose most striking features have been underlined in previous contributions.<sup>34</sup> A process of formal abstraction underlies every grammaticalization scale (i.e. every paradigm of structures with a common functional denominator): it is a gradual process leading to the development of grammatical form, i.e. of formal schemata. The greater the distance of a technique from NAMEGIVING the more abstract the (formal) concept of object itself: the assimilation of reality to the operational schemata of language increases proportionally. In the scale of INDIVIDUATION the maximum corresponds to ABSTRACTION, bringing about the apprehension as object of what was primarily, i.e. in first order language, a statement or proposition.

As a manifestation of intelligence, as a support of thought, language has an operational structure with all of the relevant characteristics that genetic epistemology attributes to cognition and every other form of adaptive behavior. The principles of generalization/individualization are particular manifestations in the dimension of INDIVIDUATION of two more general complementary functional principles, viz. indicativity (pragmaticity) and predicativity, which are co-present in all techniques pertaining to this dimension, and to any other dimension, as the two forces working in opposite directions and in inverse proportion, thus giving to the grammaticalization scale dynamism and directionality. They in turn may be viewed as the linguistic correlate of the functional invariants assimilation and accomodation "in a model of goal-oriented language behavior"

(Seiler 1986b:14). NAMEGIVING is the most indicative (pragmatic) position of the scale (proper nouns go back to an act of namegiving), whereas in ABSTRACTION the principle of generalization is prevalent; ABSTRACTION is the end position of another scale (NOMINALIZATION) achieving the condensation or reification of statements; the intermediate instances reflects the steps of a programme-like process leading to the apprehension of propositional contents as objects: this shows the strong assimilative power of the technique ABSTRACTION. The role of number in these processes, especially the relation between transnumerality and generalization as well as between singular/plural and individualization has been described in detail in several previous articles.<sup>35</sup>

Proper nouns are inherently individualized, singular and definite. They are the prototypical singular or constant terms that specify the object (real or imaginary objects, questions pertaining to reference are not at issue now) without describing it. A proper noun is a linguistic gesture without inherent meaning,<sup>36</sup> that is without predicativity.<sup>37</sup> The use of proper nouns consists in connecting with the "christening", i.e. with the original (pragmatic) act by which a person or a thing is given a name. If this were the unique technique for INDIVIDUATION the linguistic apprehension of reality would stagnate at the first step. The scheme can undergo successive enlargements so as to incorporate aspects of the reality more and more remote from immediate experience, but to a more and more restricted extent according to the distance on the scale of egocentrism. Proper nouns have however an amount of generalization that deictic elements do not have; they substitute the deictic act, thus rendering the discourse independent of the speech situation; they make absent objects present so that one can tell about them what happened no matter when and where. This is the "practical meaning" of proper nouns.

Each of the following steps of the programme introduces a new plan with a greater assimilation power. The plan underlying proper nouns is subsumed under a new technique which in-

dividuatives are a categorial crystallization of. To a certain point it is not wrong to say that they are names, names of many things as it were; these objects must however share the property pointed out by the noun, which by that means proves to be a general term; eventhough many persons (or things) may be spoken of/to by the same name, they need not have a common property.<sup>38</sup> It is absolutely wrong to treat individuatives as equivalent to proper nouns by maintaining that they designate a unique thing, viz. an idea, a universal, a property or a set<sup>39</sup> and it is to the same degree a mistake to equate them to predicates (general terms: Quine). Individuatives represent a balance of these two components; both of them must be acknowledged by distinguishing the predicative content from the operational plan which they bear categorial traces. As lexemes they embody a more or less general concept; their individuation is fulfilled by means of a technique whose exponents are genders in systematic interaction with number. In Indo-European languages all nouns belong to a gender and most of them have two grammatical forms: the singular and the plural: they are said to be inherently individuated; their most striking characteristic is that they lack a special neutral form with regard to INDIVIDUATION and DETERMINATION (reference); secondarily they may be used generically, but they are not even in the generic use completely free from individualizing and referential traits (see Iturrioz 1986/ID-1). The principle of generalization cannot be totally dissociated from the principle of individualization (partial indistinctness); there is nevertheless a wide margin of variation that goes from definite descriptions (involving certain generalizable aspects and thus raising reference problems that do not arise in the case of proper nouns) to the most generic NP: the bare plural. In this sense NAMEGIVING is integrated in this new plan as in a new synthesis: proper nouns may be substituted by definite descriptions.

In the analytical languages of the Far-East we find a diametrically opposite situation. The fulcrum of the dimension is placed in the technique N.CLF: nouns are not inherently indi-



viduated so that counting and reference to individual objects necessitates the insertion of syntactic markers for individualization that secondarily can be used as structural means for definite reference.

Quine considered mass nouns as an archaic category because generality and individuality are in them in a state of indistinctness: they are said to lead a double life. The operational approach can throw light on some of Quine's interesting ontogenetic ideas. The categorial polarization singular term – general term together with the overweighting of the similarities between mass nouns (as "precursors of abstracts") and proper nouns on the one hand and between mass nouns and predicates on the other results in an oversimplification of the grammatical facts. In the technique MASS/MEASURE the functional principles of generalization and individualization can be dissociated to a higher extent as in the case of individuatives, there are specifically generalizing and specifically individualizing structures. Continuatives are so called because they are not inherently individuated: they necessarily belong to a gender, but they are transnumeral; individualization is achieved by means of syntactically and semantically complex operations of the type *a cup of tea*, *zwei Stunden Arrest*,... There is a remarkable degree of freedom in the paradigmatic as well as in the syntagmatic axis. This freedom increases in the technique COLLECTION and reaches the maximum in the technique ABSTRACTION. At any rate the categorial aspects must be seen in the light of the operational relations between structures.

This interpretation is based on the existence of a scale of grammaticalization where the formal exponents are arranged according to a set of semantic and morphosyntactic parameters. Such an operational framework makes possible to compare structures of the same languages or of different languages without reducing them to a small number of categories and without "explaining" formal concepts by means of semantic concepts. The whole scale can be characterized as a continuum of co-varia-

tion between structures and meanings extending from the free text constitution up to lexicalization or vice versa. Elements taken from the lexicon are used as exponents of grammatical operations; they cease to be part of the apprehended reality (at a first order semantic level) and become part of the apprehension mechanisms (at a second order operational level). Along the scale the exponents are more and more grammaticalized (the freedom with regard to the operations of selection and combination diminishes, the cohesion increases, the meaning becomes more and more abstract, etc.etc.); in the issue they settle in the lexicon as irre recognizable parts of lexemes.<sup>40</sup>

From a diachronic point of view it is a process of creation of grammatical form. The formal process of grammaticalization and the semantic process of (formal) abstraction take place in an interdependent way.

*Glass* in *three glasses of water* cannot be identified with a concept (or mental image) representing material objects; it stands for a unit of capacity for dealing out liquids, etc., i.e. for an amount, a very abstract (formal) concept reflecting the mental operation of measuring; the meaning gets free from actional and figurative aspects and points to mental operations (interiorized actions); in German *drei Glas Wasser* the operator is not even pluralized: *Glas* doesn't denote a drinking vessel, by no means three different drinking vessels; in other words the objects to be counted are not glasses, but water; *Glas* is an individualizer, a unit counter, more exactly a mensurative. *Litre/Liter/litro* is not associated any more with a special kind of objects; nobody associates GER. *Mandel* with a heap of 15 sheaves or bundles (this was the meaning of Low Latin *mandala*) or *Schoek* with a heap of 60 sheaves.

We would not understand the "raison d'être" de *khan* in Thai *rôm khan nî* 'umbrella – CLF – D' if we merely take into consideration that the lexeme *khan* designates objects that have a handle or a haft; we would by no means understand why the

lexeme is repeated in *prathêet sǎm prathêet* 'country - 3 - country' or in *rôm khan khǎaw yǎy khan nǎi* 'umbrella - CLF - green - CLF - big - CLF - D' unless we acknowledge two different semiotic levels and a gradual loss of objective predicativity: *khan* and *prathêet* do not convey any information that is not contained in an other constituent of the same construction, they do not point so much to a property of the things at issue as to semantic traits of the nouns; they refer back to the code they belong to and are consequently to be considered as metapredicative elements.

The repetition of *khan* in the last construction is something like agreement: *gross-er grün-er Schirm-MASC, un-a sombrill-a amarill-a chic-a* 'a small yellow umbrella'; the iterated grammatical morpheme points to a property of the noun (gender) and means the integration of all the components of the NP in a common higher function. The formal difference between Thai, German and Spanish correlates with the semantic difference; while numeral classifiers mean fairly specific features, *-er* or *-a* may be associated only in some cases with sex<sup>41</sup> or with other objective properties. Genders convey a metaclassification much more independent from the lexical meaning of the classified nouns than in the case of noun classes, numeral classifiers, etc. They entail a purely linguistic act of classification. If *khan* and *prathêet* are said to be metapredicative because of the fact that they reflect the predicative content of the nuclei and only indirectly convey information about properties of the things classified by them, then gender markers may be supposed to be metapragmatic in view of the fact that they point to a non-predicative linguistic operation which in turn reflects some pragmatic aspects of the corresponding things. Genders do not reflect systematically properties of the things<sup>42</sup>, but at most how things are treated in a given cultural context<sup>43</sup>.

The same holds for grammatical numbers, functionally bound to genders and other largely grammaticalized classificatory

techniques like NOUN CLASSES<sup>44</sup>: water is normally measured, books are normally counted. Spanish *sangre* is in common parlance an uncountable noun, but in physicians' and nurses' usage it is countable. They manipulate blood every day in standard units. As demonstrated in Iturrioz 1985/AS and Iturrioz 1986/SL, genders and numbers reflect the mental manipulation of statements, i.e. to what extent they are reified and treated as individual entities in technical and scientific (second-order) languages.

## FOOTNOTES

<sup>1</sup>Ware 1975:380,386, Cartwright 1975:397f, Bunt 1979:250, Iturrioz 1986/ID-III. A survey of the problems concerning the subcategorization of nouns is given also in McCawley 1975, Allan 1980, Mufwene 1981, Bosque 1983.

<sup>2</sup>Kurth 1953a, 1953b, 1956, 1957, Fleischer 1975:160ff.

<sup>3</sup>= mountain ridge, branches, stretch of cultivated land.

<sup>4</sup>= beamwork, timberwork, woodwork; clothes, rags, tatters, bauble, knick-knack; banquet, feast; clouds.

<sup>5</sup>= bark; shirmish; chatter; quarrel, wangle.

<sup>6</sup>Iturrioz 1986/LO:52.2, 1986/ID-II:52.

<sup>7</sup>Iturrioz 1982/AKT: 54ff.

<sup>8</sup>This is also the function of *-tier/-tiere*, *-mann/-männer*, *-mann/leute* in the case of "concrete" nouns lacking a morphological plural: *Wild* 'game' - *Wildtiere* 'hunted animals, quarries', *Ehe* 'married couple' - *Eheleute* 'married persons', *Ehemänner* 'husbands', *Ehefrauen* 'wives', *police* - *policeeman*, *policemen*...

<sup>9</sup>See Jespersen 1933:206, Chomsky 1965:82, Quirk et al. 197-:127. Weinreich (1966) criticizes this proposal which carries a duplication of the nominal lexical entries.

<sup>10</sup>The essential ideas were explained previously in Allan 1977, 1979.

<sup>11</sup>EX - PL= "plural external number registration" as in *not all cattle are bovine, the herd were grazing peacefully*; (A + N= (singular) indefinite article: *a car*); ALL + N= universal quantification with *all* in singular is possible only with continuatives: *all se water is saline*, *\*all car is the best mode of transport*; F + N="fuzzy denominator" like (*a*) *few*, *several*, *many*, *a dozen or so*, *five hundred*; O-DEN= other "denominators".

<sup>12</sup>I have enclosed in brackets the nouns requiring a specification: *\*an admiration* - *a great admiration*.

<sup>13</sup>More details in Iturrioz 1986/ID-I,II.

<sup>14</sup>Parsons 1970:364 (singular terms in words of Quine 1963: 90ff), Cresswell 1973:139, Bolinger 1980:26; for a more accurate description of the similarities and differences between proper nouns and abstracts see Seiler 1986 (esp. §4.8.6) and Iturrioz 1986/ID-III.

<sup>15</sup>This is not my opinion, but many logicians and linguists think so. Carlson 1978, 1979 bases his analysis of the English bare plural on the postulate that it is a proper noun of kinds.

<sup>16</sup>More details in Iturrioz 1986/ID.

<sup>17</sup>See Iturrioz 1986/ID-III:281ff.

<sup>18</sup>On proper noun esp. Vater 1965, Wimmer 1973, Leys 1965, 1979, Kuhn/Serzisko 1982.

<sup>19</sup>See Kölver 1982.

<sup>20</sup>Bunt 1976:81, 1979:249.

<sup>21</sup>For example in several of the articles gathered in Synthèse 31 and Pelletier 1979.

<sup>22</sup>Carlson 1977, 1978.

<sup>23</sup>For more details see Iturrioz 1986/V.

<sup>24</sup>Seiler 1986:54.1.3.

<sup>25</sup>See Iturrioz 1986/ID-II, §5.

<sup>26</sup>For an explanation of this concept see Iturrioz 1986/SL.

<sup>27</sup>See Iturrioz 1986/ID-I.

<sup>28</sup>The idea that "the bare plural noun is fundamentally a PROPER NOUN" (Bolinger 1980:26) is critically discussed in Iturrioz 1986/ID-III.

<sup>29</sup>See Kölver 1982:166f

<sup>30</sup>See Greenberg 1974.

<sup>31</sup>On the typological value of techniques see Seiler 1986:§6.

<sup>32</sup>On the role of gender in INDIVIDUATION see Iturrioz 1986/SMF.

<sup>33</sup>For more details see Iturrioz 1986/SL.

<sup>34</sup>See esp. Seiler 1986, 1986a, Iturrioz/Leal 1986, Iturrioz/Gómez/Ramírez 1987, Iturrioz 1986/SMF. In a forthcoming monograph to be entitled Formale Abstraktion: zu einer funktional-operationalen Theorie der grammatischen Form I will set forth in detail all relevant aspects of this dynamic conception of grammatical form.

<sup>35</sup>Iturrioz 1982/AB, 1985/AS, 1985/A-TA, 1986/ID-III.

<sup>36</sup>Leys 1979:70.

<sup>37</sup>Kuhn/Serzisko 1982.

<sup>38</sup>See Coseriu 1969.

<sup>39</sup>See Iturrioz 1986/ID-I, §2.

<sup>40</sup>For more details see Iturrioz 1986/SL.

<sup>41</sup>In English, where there is only external agreement, genders are associated more transparently with the features "human", "personal" and "male/female". But this is another question concerning pronominal reference.

<sup>42</sup>More exactly, semantic traits of the classified nouns.

<sup>43</sup>This conveys an additional support for the usefulness of the basic complementarity indicativity - predicativity.

<sup>44</sup>There is no grammatical number in languages where the classificatory technique is widely predicative.

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