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Toward the development of a cross-linguistic naming test

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Abstract

Developing a cross-linguistic naming test has represented a challenge in language evaluation. In this paper, it is proposed that a cross-linguistic naming test should fulfill at least the following three criteria: (1) include only "universal" words found across different languages. The basic cross-linguistic core vocabulary is usually referred as the "Swadesh word list"; (2) include different semantic categories (e.g., living and nonliving elements); and (3) avoid the confounding of perceptual difficulties. Departing from the Swadesh word list, a cross-linguistic naming test was developed, including six different semantic categories: (a) body-parts (10 words), (b) natural phenomena (non-touchable) (5 words), (c) external objects (potentially known through the sight and the touch) (5 words), (d) animals (5 words), (e) colors (5 words), and (f) actions (10 words). A total of 40 color pictures were selected to represent these basic words. It is emphasized that this test has two major advantages: on one hand, it is readily available in hundreds of different languages; and, on the other hand, it is not a "fixed" test, but it includes photographs that can be replaced. Theoretically, norms are not required, and it represents a low-ceiling test. Word frequency can be used as a criterion of the level of difficulty. The next step will be to find the performance profile in different language pathologies, as well as the decline pattern in cases of dementia.

Keywords: Anomia; Naming; Swadesh word list; Language testing; Aphasia; Cross-cultural neuropsychology

1. Introduction

Naming is a basic language ability. Word-finding difficulty (anomia) represents the most frequent aphasia sign (Benson & Ardila, 1996; Goodglass, 1993; Luria, 1976). Different tests have been developed to assess naming ability; some of them, however, have become more extended than others (e.g., *Boston Naming Test* [BNT], Kaplan, Goodglass, & Weinstraub, 1983; *Object Naming Test*, Newcombe, Oldfield, Ratcliff, & Winfield, 1971; *Peabody Picture Vocabulary Test*, Dunn & Dunn, 1981).

It has long been recognized that naming body-parts, external objects, and colors depend on the activity of different brain areas (e.g., Moore & Price, 1999; Spitzer et al., 1998), and that these naming functions can be differentially affected by specific focal lesions (Hécaen & Albert, 1978; Luria, 1966, 1976). Action naming is occasionally included in some aphasia test batteries (e.g., *Boston Diagnostic Aphasia Examination*, Goodglass & Kaplan, 1983). A specific "Action Naming Test" was developed by Ardila and Rosselli (1994) with the purpose of testing a patient presenting a restricted ability to name actions. In addition to these four distinctions in naming (naming body-parts, external objects, colors, and actions), it has been further found that much finer distinctions can be established with regard to the naming defects observed in cases of brain pathology, which can be limited to a rather specific seman-

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tic categories (e.g., people's names, living things, geographical names, etc.) (e.g., Harris & Kay, 1995; Goodglass, Wingfield, Hyde, & Theurkauf, 1986; Lyons et al., 2002; Warrington & Shallice, 1984) and even as specific as "medical terms" (Crosson, Moberg, Boone, Rothi, & Raymer, 1997). It is reasonable to expect that a naming test includes naming of different semantic categories (e.g., living and nonliving things) because—as mentioned above, the naming of these categories depend on different brain areas and can be differentially affected in cases of brain pathology.

The major naming test used in aphasia assessment is the BNT (Kaplan, Goodglass, & Weinstraub, 1983). The BNT has been adapted to several languages, including Spanish (Garcia-Albea, Sanchez-Bernardos, & del Viso-Pabon, 1986), German (Merten, 2004), Dutch (Marien, Mampaey, Vervaet, Saerens, & De Deyn, 1998), etc., has had widespread clinical and research applications. Nonetheless, the BNT has at least the following limitations: (a) pictures are frequently difficult to recognize, particularly in people with posterior brain pathology, elders, and illiterates; (b) it was developed in a particular cultural context, and it is culturally and linguistically biased. Some figures correspond to typical American elements (e.g., pretzel), and/or are well known only for people living in some world areas (e.g., beaver); (c) it does not distinguish semantic categories, and as a matter of fact, the semantic categories are rather randomly used (e.g., animals, musical instruments, external objects, etc.). In consequence, it is not appropriate to distinguish category-dependent naming defects; (d) it is based in the assumption that the pictures are presented in an increasing level of difficulty. This assumption is not clearly substantiated. Clinical observations do not always support it. Furthermore, the order of difficulty also varies from language to language. For instance, the level of difficulty for the different pictures is relatively different in Spanish than in English (personal observation).

In cases of aphasia, naming difficulties are manifested by (1) slowness or impossibility to find the correct word, (2) circumlocutions (including descriptions, e.g., "it is very big and strong", and the use of superordinate words, e.g., "it is an animal"), and (3) paraphasias; different types of paraphasias are usually distinguished, though the two major types correspond to semantic paraphasias (e.g., *bench* → *table*) and phonological paraphasias (e.g., *pencil* → *percil*) (Ardila & Rosselli, 1993; Benson & Ardila, 1996; Luria, 1976). Phonetic deviations can be also recorded, but phonetic deviations are regarded as speech, not language defects.

Theoretically, a naming test should allow scoring for (a) naming speed; frequently, subtle naming defects are observed not as an overt failure to find the correct word, but as slowness in naming; (b) paraphasias (at least, phonological and semantic); (c) circumlocutions (i.e., superordinate terms and descriptions; e.g., "well, this is a big animal that may be found in Africa"); (d) word-retrieval ability when using phonological cueing (e.g., "*it is a/pe/*. . .); and (e) failure in naming.

Two major factors can affect the naming ability. Naming ability is significantly correlated with the individual's educational level and age (Lezak, 2004; Spreen & Strauss, 1998). Lexical knowledge significantly correlates with the individual's educational level (e.g., Lecours et al., 1987, 1988; Manly et al., 1999; Rosselli, Ardila, & Rosas, 1990); vocabulary tends to decrease particularly after the seventh decade of the life (e.g., Mackay, Connor, Albert, & Obler, 2002; Ramsay, Nicholas, Au, Obler, & Albert, 1999; Tsang & Lee, 2003). Illiterate elders present in consequence, the lowest ability to find names. Some times a gender effect has been reported in naming, but this gender effect is inconsistent (e.g., Grabowski, Damasio, Eichhorn, & Tranel, 2003; Pineda et al., 2000).

In addition to the impairments in naming associated with abnormal brain conditions, difficulties in finding names may be due to a diversity of factors. The three major confoundings in testing naming ability are as follows: (1) Perceptual difficulties: The item is not recognized because of visual–perceptual defects. To overcome this difficulty, the BNT allows semantic cuing (i.e., to tell the semantic category). (b) Lack of familiarity with the item: Many of the items included in current naming tests have different levels of familiarity for people living in different countries and cultural contexts. For instance, the pretzel is a typical American snack, virtually unknown in most countries. (c) Word frequency: A frequent and easy word in a particular culture can be more unusual and difficult in another culture. A dart is easier to name for English speakers, and harder for Spanish speakers, whereas a domino is easier to name for Spanish speakers than for English speakers (personal observation).

Developing a cross-linguistic naming test requires using words that are found across different languages (*basic universal* or *core vocabulary*). Just few words are recognized to be universal. They refer to those elements that every person—regardless of time, place, and living conditions—has been exposed to (www.ethnoculture.com). This basic core vocabulary was proposed by Swadesh (1952, 1967), and it is usually known in linguistics as the "Swadesh word list."

Given that naming represents a basic language ability, to develop a cross-linguistic naming test is important because of different reasons: (1) it would allow to use similar testing instruments across different languages; (2) it would allow to compare language defects in speakers of different languages; (3) the problems of translation and test equivalence would be partially overcome; and finally (4) developing a new naming test represents an opportunity to fix some of the problems existing in currently available naming tests mentioned above.

2. The "Swadesh word list" (Basic Core Vocabulary)

There are two major versions of this basic universal vocabulary. The original 100-word lexicostatistical list was published by Swadesh in 1952 and supposedly represents the Basic Core Vocabulary existing in any language. The 200-word list was used for Austronesian and Indo-European, with observed replacements rates, and was published by Kruskal, Dyen, and Black in (1973). The Swadesh word list is meant to be a list of 100 (200) key concepts that all languages, irrespective of cultural differences, are most likely to have words for, and are least likely to have borrowed from other languages.

Using this list of "stable" words, glottochronologists believed they could calculate the approximate amount of time that had passed between the split-up of two related languages (Swadesh, 1967). Unfortunately, language does not seem to change at a constant rate. The word list and the formulas to use it will, for instance, accurately show that the Romance languages started to split up about 2,000 years ago.

In consequence, there are different versions of the Swadesh word list; some are shorter (100 words) and some are longer (200 words, and even sometimes 207 and 250 words). The shorter Swadesh word list includes the following:

1. Grammatical words: I/me, you, we, this, that, who, what, not.
2. Quantifiers: All, many, one, two.
3. Adjectives: Big, long, small, hot, cold, full, new, good, round, dry.
4. Human distinctions: Woman, men, person, name.
5. Animals: Fish, bird, dog, louse.
6. Highly frequent elements: Tree, seed, leaf, root, bark, skin, flesh, blood, bone, grease/oil, egg, horn, tail, feather.
7. Body-parts: Hair, head, ear, eye, nose, mouth, tongue, claw, foot, knee, hand, belly, neck, breast, heart, liver.
8. Actions: Drink, eat, bite, see, hear, know, sleep, die, kill, swim, fly, walk, come, lie (down), sit, stand, say.
9. Natural phenomena: Sun, moon, star, water, rain, stone, sand, earth, cloud, smoke, fire, ash, burn, path, mountain, night.
10. Colors: Red, green, yellow, black, white.

The Swadesh word list is currently available in hundreds of languages. In consequence, a naming test using the Swadesh word list would be automatically available in hundreds of different languages (see, www.rosettaproject.org/live/search/contribute/swadesh/view/index_html).

3. A cross-linguistic naming test

A naming test should clearly distinguish different semantic categories, at least external elements, body-parts, colors, and actions. External elements may be further subdivided (e.g., natural phenomena and external objects potentially known through sight and touch). These five semantic categories (body-parts, natural phenomena (non-touchable), external objects, animals, colors, and actions) were selected because of two major reasons: (1) There are category-specific naming defects, and consequently a naming test should include different semantic categories; (2) Only these five semantic categories can be clearly separated if departing from the Swadesh word list. That means, these are universal semantic categories.

Furthermore, a naming test is expected to avoid at best the confounding of perceptual defects. Two strategies can potentially be used to minimize the effects of visuoperceptual impairments: (1) to select realistic elements, easy to be visually recognized. Color photographs should be preferred to black and white ink drawings. (2) To provide the semantic category; for example, instead of asking about "the name," to ask about "the name of this animal."

With the above considerations in mind, 40 words were selected from the Swadesh word list. All of them, except two, were taken from the short 100-word list. The two words taken from the longer Swadesh word list were "snake" and "worm." This was done to have five animal names. One of the animal names in the short list was not used ("louse") because of the difficulty in representing it.

In developing the test, the following strategies were used:

Table 1
Cross-linguistic naming test

English	Frequency	Order of difficulty	Spanish	Frequency	Order of difficulty
Body-parts (10)					
Ear	305	3	Oreja	2,742	33
Eye	240	2	Ojo	147	3
Nose	1,940	27	Nariz	2,367	31
Mouth	1,014	15	Boca	559	9
Tooth	1,756	25	Diente	2,121	28
Tongue	2,878	32	Lengua	901	14
Knee	1,966	29	Rodilla	3,684	37
Belly	5,676	40	Estomago	3,003	35
Neck	1,598	24	Cuello	1,714	24
Foot	484	8	Pie	329	4
Natural phenomena (5)					
Sun	1,058	17	Sol	362	5
Moon	3,020	34	Luna	2,254	30
Cloud	2,456	31	Nube	1,307	20
Fire	719	12	Fuego	667	11
Mountain	1,590	23	Montaña	883	13
External objects (5)					
Tree	695	11	Arbol	582	10
Leaf	1,852	26	Hoja	881	12
Bone	1,955	28	Hueso	1,574	23
Egg	1,544	22	Huevo	4,142	38
Feather	5,302	37	Pluma	1,035	16
Animals (5)					
Dog	823	14	Perro	1,121	17
Bird	1,115	18	Ave	2,802	34
Snake	5,513	39	Serpiente	3,472	36
Fish	1,017	16	Pez	2,600	32
Worm	5,336	38	Gusano	4,970	40
Colors (5)					
Red	791	13	Rojo	1,494	22
Green	1,116	19	Verde	1,998	26
Yellow	2,162	30	Amarillo	2,004	27
White	3,436	35	Blanco	1,286	19
Black	502	9	Negro	2,161	29
Actions (10)					
To drink	1,129	20	Beber	1,002	15
To eat	662	10	Comer	445	8
To hear	258	4	Oir	130	2
To sleep	1,381	21	Dormir	387	6
To swim	2,952	33	Nadar	4,796	39
To fly	3,892	36	Volar	1,321	21
To walk	463	7	Caminar	1,559	25
To lie down	447	6	Acostarse	1,129	18
To sit	317	5	Sentarse	444	7
To say (talk)	34	1	Decir (hablar)	42	1

Note. Word frequency in English (Kilgarriff, 1997; http://www.itri.brighton.ac.uk/~Adam.Kilgarriff/bnc-readme.html#lemmatised) and Spanish (Juilland & Chang-Rodriguez, 1964). The frequency order of each word is presented (1 corresponds to the most frequent word in the language). "Order of difficulty" refers to the relative difficulty in this naming test.

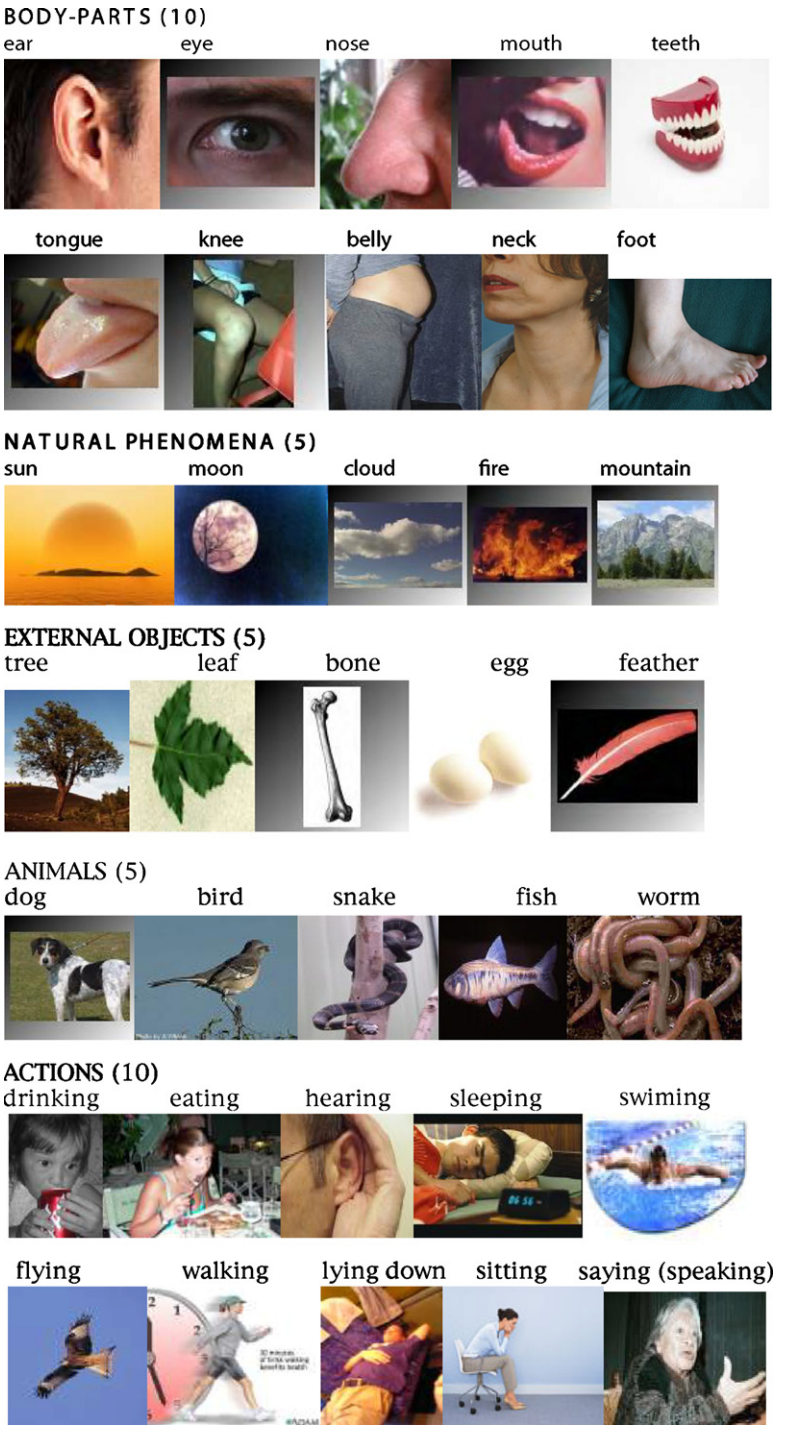

Fig. 1. Cross-linguistic naming test. Original in color. Pictures corresponding to "colors" have been omitted.

1. Forty words corresponding to five different categories were selected: (a) body-parts (10 words), (b) natural phenomena (non-touchable) (5 words), (c) external objects (potentially known through sight and touch) (5 words), (d) animals (5 words), (e) colors (5 words), and (f) actions (10 words). A total of 40 color photographs were selected to represent these basic words (see Table 1 and Fig. 1). Only those words that could be visually represented in a

clear way were included (grammatical words, quantifiers, and adjectives were excluded). For some categories (e.g., colors), all the available Swadesh list words were included. For other categories (e.g., actions), only words that were easily represented were selected.
2. The items corresponding to each category (e.g., body-parts) were presented in sequence.
3. For each category, there were different instructions: (a: body-parts) *What body-part is this*? (b & c: natural phenomena and external objects) *What is this*? (d: animals) *What is the name of this animal*? (e: colors) *What color is this*? (f: actions) *What is this person doing*? (except for "flying": *What is this bird doing*?). The examiner may point to the element to be named. The semantic category is provided in order to minimize the effect of potential visuoperceptual difficulties.
4. To avoid the confounding of perceptual errors, 10 cm × 15 cm color photographs taken from Internet sites were included in the test.

Table 2
Scoring sheet

Item	Answer <5 s; 5–20 s	Phonological paraphasia	Semantic paraphasia	Superordinate Description	Phonological cueing	Failure
Ear						
Eye						
Nose						
Mouth						
Tooth						
Tongue						
Knee						
Belly						
Neck						
Foot						
Sun						
Moon						
Cloud						
Fire						
Mountain						
Tree						
Leaf						
Bone						
Egg						
Feather						
Dog						
Bird						
Snake						
Fish						
Worm						
Red						
Green						
Yellow						
White						
Black						
Drink						
Eat						
Hear						
Sleep						
Swim						
Fly						
Walk						
Lie down						
Sit						
Say (talk)						
Total						

Table 3
Summary of scores

Body-parts	/10=	%
Natural phenomena	/5=	%
External objects	/5=	%
Animals	/5=	%
Colors	/5=	%
Actions	/10=	%
Total correct	/40=	%

Number of phonological paraphasias =. Number of semantic paraphasias =. Superordinate/descriptions =.

Some general guidelines for the administration of this naming test were used:

1. There is no a discontinue rule. All 40 pictures are presented to the participant.
2. The pictures are presented one by one, but all the items corresponding to a specific category are presented in sequence. In order to minimize the perceptual confounding, the instructions are different for each category (see above). No semantic cueing is provided.
3. Time is taken. Immediate responses (within 5 s) are separated from slow responses (up to 20 s). Time in naming is used for qualitative analysis, but not considered in the correct score. After 20 s, the initial syllable is presented (phonological cueing). Noteworthy, phonological cueing can be problematic when comparing different languages, because of the differences in the phonological length of the words. However, words retrieved using phonological cueing are not included in the "correct" score. An answer sheet is used (Table 2). A dichotomous variable for timing (<5 and 6–20 s) is used simply for simplicity in recording, but timing could also be used as a continuous variable. Results can be summarized in a simple table (Table 3).
4. Three types of naming errors are distinguished: phonological paraphasias, semantic paraphasias, and circumlocutions (i.e., using superordinate words and/or descriptions). "Failure" is marked if, after the phonological cueing, the participant fails to find the correct name.
5. Both semantic and phonological paraphasias may be scored in two different ways: (a) "Total number of paraphasias," refers to the total number of paraphasic errors presented by the subject (e.g., if, when naming the "dog," the participant answers both "cat" and "horse," then two semantic paraphasias are counted). (b) "Paraphasic naming" refers to the number of pictures in which paraphasias are observed (e.g., when naming the "dog" the participant answers "cat" and "horse" there is only one picture that was being named in a paraphasic way). Both scoring strategies have clinical value. In this test, the second procedure is used, because it more accurately reflects the failure in finding specific words.

4. The issue of norms

In cognitive testing, it is usually assumed that norms are always required. Otherwise, no comparison is reliable. This idea, however, is more a desideratum than a reality. Furthermore, it does not seem to be a completely realistic idea. As a matter of fact, in the future, the search for norms may be coordinated with the search for understanding the sources of variation.

To obtain norms in English or Spanish (each one with about 400 million speakers) seems realistic. But English and Spanish are just two out of the three largest existing languages accounting together for no more than 15% of the world's population. Worldwide, there are about 6,800 different languages (http://www.ethnologue.com/), most of them with a limited number of speakers. To obtain norms for all these 6,800 different languages is simply unrealistic. Furthermore, most of the world languages are small languages, and obtaining a reliable database would mean testing a high percentage of the speakers. If we assume that the average language has 1 million speakers (the real number is lower), and we want to normalize the neuropsychological instruments using just 200 stratified subjects in each language, it would mean that about 1.5 million participants would be required. This is a nonrealistic endeavor for contemporary neuropsychology. It seems more realistic to determine the linguistic factors potentially affecting cognitive test performance.

Theoretically, no norms are required for the cross-linguistic naming test. It is assumed that these 40 words correspond to a basic vocabulary that any person living anywhere in any time has used. This assumption is taken from the historical

linguistics (see above). The question becomes, at what age is this basic vocabulary expected to be acquired? All the words included in naming tests are root words (e.g., dog), not inflected (e.g., dogs) or derived words (e.g., doggy). The vocabulary size for the total number of words is expected to be about 10,000 for first graders. Roots words grow from about 2,000 in first graders to about 5,500 in third graders (Anglin, 1993; Hoff, 2001). As a consequence, the proposed naming test would be anticipated to be useful for adults. In children, the specific pattern of development of this basic core vocabulary would have to be established.

Despite that norms are not required, and word frequency may be used as a criterion of the participant's vocabulary size, piloting the pictures and the potential errors is obviously needed. The set of pictures presented in this paper was piloted in a small sample ($n = 10$) of college students. Different pictures were initially used, and those presenting some confusion in the answers were discharged. Finally, only those pictures with 100% correct answers were retained.

Some potential problems can be encountered: (a) a particular element may have different names in a language. For instance, "belly" in English may be called "stomach," "tummy," "gut," "abdomen," or "paunch," and in Spanish may be named as "estomago," "barriga," "panza," or "vientre." Of course, all these answers should be regarded as correct. In other words, alternative (but correct) naming is acceptable (e.g., "saying" may be "telling" or "speaking"). (b) The patient may answer to something different from what is intended. For instance, when the picture of the belly is presented, the patient may answer "navel." The examiner may show what is supposed to be named ("and how do you name all this area of the body?"). (3) The picture is perceptually confusing. Obviously, the solution is to get a better quality photograph. The point is not the specific photograph, but to have an unambiguous picture easily recognizable by any normal person. Photographs can be changed if required, to adapt the test to the specific conditions (e.g., the ethnicity of the people in the pictures representing actions and body-parts).

It is worth noting that, even though the test uses a basic vocabulary, the dispersion in word frequency is significant, extending from some extremely frequent words, up to relatively infrequent words, corresponding to about the 5,000th word in frequency. Table 1 presents the word frequency for the English and Spanish versions of the test. The most frequent word in both English and Spanish is "say" ("decir"). The order of frequency, as a matter of fact, is quite alike in both English and Spanish. Some discrepancies in frequency between English and Spanish are easily understandable; for instance, in English the word "feather" only refers to a bird's feathers; whereas in Spanish the word "pluma" not only means a bird's feathers but also a pen. In any case, it may be conjectured (subject to empirical verification) that any person having about a 5,000–6,000-word vocabulary should obtain a perfect score in this naming test.

Knowing the frequency of the words has an additional advantage in testing the language: it allows conjecturing about the size of the participant's vocabulary. In cases of aphasia, it allows speculation about the severity of the vocabulary loss.

5. Cross-linguistic use

This test may be available right away to be used in hundreds of different languages (www.rosettaproject.org/live/search/contribute/swadesh/view/index_html). Table 4 presents the test in eight different languages. Furthermore, it has to be emphasized that any of the pictures can be replaced by another picture representing the same word. The point is not the exact picture, but the quality of the picture, as realistic as possible, to avoid perceptual confoundings. The set of pictures that we have been using can be replaced by a totally new set of pictures with the same names.

Nevertheless, some cautions are in order. A clinician working with an interpreter for an unfamiliar language will need to be careful to ascertain that synonym responses are truly synonyms and not superordinates, circumlocutions, paraphasias, or other errors. Those working with illiterates and with test-naïve participants will need to be particularly careful to be certain that a testing set has been established and understood. Although the intention of the test design is to have a test that will produce a perfect score (for naming success) in normal adults, this remains to be empirically verified for each language and population of use. Furthermore, more sophisticated scoring, such as response time and frequency of error type, will require norms for clinical interpretation. Although the test is likely to be specific for anomia, it is not likely to be highly sensitive. The low ceiling of the test can be expected to produce many false negative results, that is, individuals with significant loss of naming abilities may nevertheless obtain normal scores on this test.

This test has been developed primarily for the purpose of detecting naming difficulties in adults. Other applications may require further development and empirical support. For example, use of this test to track vocabulary development in children cannot be assumed to be comparable across languages.

Table 4
Cross-linguistic naming test in eight different languages

English	Spanish	Esperanto	Latin	Turkish	Basque	Russian	Sikuani[a]
Ear	Oreja	Orelo	Auris	Kulak	Belarri	Uxa	Muxu
Eye	Ojo	Okulo	Oculus	Göz	Begi	Glaz	Itaxu
Nose	Nariz	Nazo	Nasus	Burun	Sudor	Nos	Pumu
Mouth	Boca	Buso	Os	Ağız	Aho	Rot	Koibo
Tooth	Diente	Dento	Dens	Diş	Hortz	Zub	Wono
Tongue	Lengua	Lango	Lengua	Dil	Mihia	Jazyk	Ebanu
Knee	Rodilla	Genuo	Genu	Diz	Belaun	Koliena	Matabaka
Belly	Estomago	Ventro	Venter	Karın	Sabel	Zhivot	Koto
Neck	Cuello	Nuko	Collum	Ense	Lepo	Ceja	Wosi
Foot	Pie	Piedo	Pes	Ayak	Oin	Noga	Taxu
Sun	Sol	Suno	Sol	Güneþ	Eguzki	Sontse	Huamekotia
Moon	Luna	Luno	Luna	Ay	Hilargia	Luna	Juameto
Cloud	Nube	Nubo	Nimbus	Bulut	Hodei	Oblako	Pahubo
Fire	Fuego	Fajro	Ignis	Ates	Su	Ogon	Iso
Mountain	Montaña	Monto	Mons	Dað	Mendi	Gora	Tsu
Tree	Árbol	Arbo	Arbor	Agac	Arbol	Diereva	Nae
Leaf	Hoja	Folio	Folium	Yaprak	Orri	List	Boxu
Bone	Hueso	Osto	Os	Kemik	Hezur	Kost	Si
Egg	Huevo	Ovo	Ovum	Yumurta	Arrautza	Jaitso	Tobo
Feather	Pluma	Plumo	Penna	Tüy	Luma	Piero	Korope
Dog	Perro	Hundo	Canis	Kopek	Txakur	Sobaka	Awiri
Bird	Pájaro	Birdo	Avis	Kus	Txori	Ptitsa	Baratsui
Snake	Serpiente	Serpento	Serpens	Yýlan	Suge	Zmeja	Homo
Fish	Pez	Fiso	Piscis	Balık	Arrain	Ryba	Duhai
Worm	Gusano	Vermo	Vermis	Kurt	Har	Gusenitsa	Oro
Red	Rojo	Ruga	Ruber	Kýrmýzý	Gorri	Krasno	Tsobia
Green	Verde	Verda	Viridis	Yeþi	Berde	Ziliony	Rauna
Yellow	Amarillo	Flava	Flavus	Sarý	Ori	Zhiolty	Wajana
White	Blanco	Blanka	Albus	Beyaz	Zuri	Bliedno	Niopo
Black	Negro	Nigra	Niger	Siyah	Beltz	Tchiorne	Tsaebia
Drink	Beber	Trinki	Bibere	Içmek	Edan	Pit	Apa
Eat	Comer	Mangi	Edere	Yemek	Jan	Iedit	Xane
Hear	Oir	Audi	Audire	Duymak	Entzun	Slushat	Humet
Sleep	Dormir	Dormi	Dormire	Uyumak	Lo	Spat	Mahita
Swim	Nadir	Nagi	Natare	Yüzmek	Igeri	Plavat	Hua
Fly	Volar	Flugi	Natare	Uçmak	Hegan	Lietat	Puna
Walk	Caminar	Piediri	Gradi	Yürümek	Ibili	Guliat	Pona
Lie down	Acostarse	Kusi	Iacere	Yatmak	Gezur	Lgat	Boka
Sit	Sentarse	Sidi	Sedee	Oturmak	Eseri	Sadit	Ekataba
Say	Decir	Diri	Dicere	Demek	Esan	Skazat	Hai

[a] Sikuani (or Tucano) is an Ameridian language from the Amazonian jungle.

6. Conclusion

To develop a cross-linguistic naming test has been a major challenge in the language disorders area. The obvious solution seems to be taking the most basic universal vocabulary found across different world languages. This solution apparently may have an obvious problem: the test ceiling will be very low. Many language tests—e.g., the Token Test—however, have a low ceiling. The low ceiling as matter of fact is both, a disadvantage, but also an advantage in language testing. It is an advantage because any error can be considered as significant. Nonetheless, word frequency in the Swadesh word list presents a significant dispersion, implying that there is some heterogeneity in the level of difficulty (see Table 1).

The following evident step in a cross-linguistic test is to obtain the specific profile of performance in different language pathologies, and furthermore, to find out how this basic universal vocabulary develops in children and disintegrates in case of dementia. This is an endeavor in language testing for the future.

Understanding the variables that can affect cognitive test performance seems to be as important as obtaining a large number of norms in different linguistic and cultural groups.

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