icograda

international council
of graphic design associations
education working group

design students project
graphic symbols for public information
design of test symbols

report 2

edited by jorge frascara

edmonton, canada
january 1982

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Introduction

Icograda published in January 1979 the report number 1, in which all the entries sent by participant schools were included.
Those entries were subsequently sent to the University of Aston, Birmingham, England, where Dr. R. Easterby was commissioned by the International Standards Organization to conduct tests for the evaluation of symbols representing 36 referents.
These tests included two parts: an appropriateness ranking test and a recognition test.
Appropriateness ranking test: subjects are told the meaning of a symbol and are given all the alternatives available. They are requested to order the symbols in a sequence going from the most appropriate to the least appropriate. The three best performing visualizations are thus chosen for later use in the recognition test. The aim of this first test is to reduce the number of alternatives for use in the recognition test in order to make the process financially feasible.

Recognition test: at least six countries from different continents take part in this process. The symbols are presented to the subjects in small booklets showing one symbol per page. Subjects are requested to write on each page the possible meaning of the symbol. Three different booklets are produced each one of them showing a different approach to the visualization of the referents. Versions A, B and C are submitted to different groups and the most recognized version of each symbol becomes chosen by the SC1 for standardization (in some cases lack of enough recognition makes this last part of the process unadvisable).

Seven countries took part in the last testing program (Australia, Austria, Canada, Chile, England, India and Japan). Two hundred subjects responded in each country to each one of the three versions of the 36 referents tested.

The SC1 meeting in Hungary recommended standardization of the image content of eighteen symbols.

It should be made clear that unlike other ISO committees the SC1 does not standardize the symbols but their image content. Cultural and environmental differences demand a certain flexibility in these international standards.

The standard image content of public information symbols appears published by ISO along with a guideline example. This guideline example shows a possible visualization of the standard image content.

Results

The results of the tests were used as a basis for the definition of the standard verbal descriptions of the referents.

The analysis of these results shows that the contribution made by the schools was not only massive (1255 test symbols were produced) but also qualitative, as the following paragraphs show.

36 referents tested
Appropriateness ranking test, 3 symbols chosen per referent

12 referents show only Icograda symbols
10 referents show two Icograda symbols
12 referents show one Icograda symbol
2 referents show no Icograda symbol

Out of the 108 symbols chosen by the test:
68 (63%) were produced by the participating schools.

Recognition test

Out of the 36 referents, 24 (or 66%) of the best performing symbols were produced by the participant schools.
Out of the 18 verbal descriptions finally adopted for recommendation as international standards, 10 were solely based on Icograda symbols and two were partly based on symbols produced by the Icograda project. In total 12 (66%) of the final recommendations were based on solutions produced by the 1978 project.
This is a solid proof of the high standards of the participating schools and of the usefulness of international cooperation in these kinds of endeavours.

The following pages show details of the results.
The results of the recognition test were divided in nine categories:
1: Certain, 2: almost certain, 3: likely certain,
4: marginally likely, 5: unlikely, 6: opposite meaning,
7: wrong, 8: don't know, 9: no response.

In order to simplify the presentation of the results this publication summarizes as 'correct answers' the first three categories of responses (certain, almost certain, likely certain). The reader will see exceptions in which the higher number of 'correct answers' is not attached to the symbol used as a basis for the standard verbal description. This is due to some

symbols having not quite a high number of 'certain' responses.
A sample of this case is referent 15, Boat, were the 'certain' responses favoured the side view of the boat.
In the case of 'Toilet' it was decided to use the figure of the male and the female as shown in examples 10 and 11 but changing the toilet shown for the one shown in number 17.
The meeting of the Sub Committee 1, held in Hungary in May 1981, decided that the results obtained by several referents did not encourage standardization at this point.

The following list describes the Sub-Committee's position in connection with these referents:

1. No entry:
   Function too broad. Data to be re-analysed for two different functions: 'No entry' and 'No entry for pedestrians'

2. Out of order:
   No test symbols work satisfactorily. Few alternative designs available.
   either: new design brief
   or: abandon referent

3. Emergency exit:
   Raw data to be used for developing a design brief for a new symbol

5. Hospital:
   Function too broad. Data to be re-analysed for two different functions: 'Hospital' and 'First aid' (but new design brief if percentages are unacceptable)

6. Police:
   Results are too dependent on culture for reliable decision to be made:
   abandon referent

7. Rescue equipment:
   Function too broad. Alternative more restricted functions and fields of application to be defined.
   New testing

13. Tickets:
    Field of application to be re-examined. New design brief to be developed based on data.
    Symbol for facility to be incorporated.

14. Arrival:
    Function and field of application too broad.

16. Departure:
    Alternative more restricted functions and fields of application to be defined.
    New testing

19. Luggage claim:
    Field of application too broad.
    Narrower field of application e.g. specific transport system might allow useful development.

21. Lost and found:
    New design brief to be developed based on data. Importance of labels, element types and random organization to be examined.
    New testing.

22. Restaurant:
    Fault in ranking test data interpretation.
    Decision deferred, pending additional data from UIC and Australia.

23. Closed:
26. Open:
    No test symbols work satisfactorily. Few alternative designs available.
    Either: new design brief;
    or: abandon referent.

29. Item of cultural interest:
    Referent too culturally and situation dependent. To be left to national standards.
    Abandon referent at ISO level.

31. Item of natural interest:
    Function too broad. Re-examine need and define narrower function.
    New testing.

33. Fire alarm:
    Defer use of data. Not originally intended for this testing program.

34. Telegram:
    Re-examination needed.
    New design brief (based on data analysis of variant showing telegram superimposed to power line).

Verbal descriptions proposed for standardization

4. Fire Equipment
Cylinder fire extinguisher with tap and nozzle adjacent to flames

8. Aircraft
Aircraft in plan view.

9. Railway
Locomotive front view on track with sleepers adjacent to platform building with standing figure.

10. Toilet (men)
Standing male figure adjacent to front perspective of toilet bowl.

11. Toilet (women)
Standing female figure adjacent to front perspective of toilet bowl.

12. Parking
Capital letter "P" with a qualifying symbol to denote vehicle type.

15. Boat
Side view of appropriate water transport.

17. Toilet (general)
Front perspective of toilet bowl showing seat and lid.

18. Left luggage
Four assorted pieces of luggage arranged on two shelves in orderly fashion.

20. Accommodation
House with sleeping figure in bed.

24. Dispose
Standing figure adjacent to sectional evaluation rubbish receptical.
Four simulated rubbish elements falling into receptacle.

25. Do not dispose
Hand throwing rubbish with negating cross on hand only.

27. Way in
Rectangular enclosure with top view of two swing doors in one side of enclosure. Doors are partially opened **inwards** with arrow head in opening.

28. Way out
Rectangular enclosure with top view of two swing doors in one side of enclosure. Doors are partially opened **outwards** with arrow head in opening.

30. Nature Reserve
Tree silhouette behind an appropriate animal.

32. Sports area
Three distinctive sporting implements.

35. Currency Exchange
Bank note with a currency mark and three randomly arranged coins each with different currency marks only.

36. Elevator (lift)
Lift cage in lift shaft showing three push buttons on lift cage
Figure in cage
Up arrow above cage
Down arrow below cage.

The International Council of Graphic Design Associations thanks the participating schools for their contribution to a most successful project.

Jorge Frascara
Project Coordinator
Edmonton, Canada

January 1982

References

ISO TC145 SC1 WG1 Document 90 (revised)
ISO TC145 SC1 Document 102
Easterby R.S. & Graydon I.R. (1981) Evaluation of Public Information Symbols: Test Series 1979/80, Part 1: Appropriateness Ranking. AP Report 99: Applied Psychology Department, University of Aston in Birmingham
Easterby R.S. & Graydon I.R. (1981) Evaluation of Public Information Symbols: Test Series 1979/80, Part II: Comprehension/Recognition. AP Report 100: Applied Psychology Department, University of Aston in Birmingham.
Jorge Frascara (1979) Icograda. Design Students Project. Graphic Symbols for Public Information. Design of Test Symbols Report 1

Symbols showing a black dot by the originators' name were used as a basis for the standard verbal description.
It should be noted that the numbers allocated to the referents in this list are not consistent with 'Report 1' and are based on the final numbers used in the testing.

1. NO ENTRY

Mod/TA
42.3

ISO
9.2

ISO
46.2

2. OUT OF ORDER

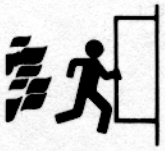
ICOGRADA
8.6
U.of Nairobi, Kenya

ICOGRADA
1.7
Osaka Univ., Japan

ICOGRADA
0.3
Univ.of Chile, Chile

3. EMERGENCY EXIT

ICOGRADA
56.1
Sheridan College, Canada



ICOGRADA
49.0
EAAOA, Spain

Dreyfuss
53.2

4. FIRE EQUIPMENT

ICOGRADA
70.5
UESYO, Turkey

ICOGRADA
67.5
EAAOA, Spain

● ICOGRADA
79.7
HAAC, Hungary

5. HOSPITAL

Dreyfuss
81.9

ICOGRADA
65.2
Osaka Univ., Japan

ICOGRADA
90.4
Bolton College, England

6. POLICE

ICOGRADA
45.3
HAAC, Hungary

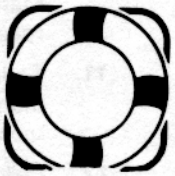
ICOGRADA
57.8
Ecole Cantonale
Switzerland

ICOGRADA
73.4
Bolton College,
England

7. RESCUE EQUIPMENT

ICOGRADA
27.3
HAAC, Hungary

ICOGRADA
47.0
UESYO, Turkey



ICOGRADA
59.7
Sheridan College.
Canada

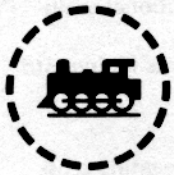
8. AIRCRAFT

● Mod/O'72
58.7

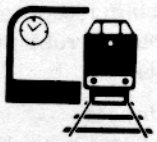
ICOGRADA
56.3
UESYO, Turkey

BTA
65.4

9. RAILWAY



ICOGRADA
41.7
UESYO, Turkey



UIC/Zwaga
74.7

● UIC/Zwaga
74.5

10. TOILET (MEN)

ICOGRADA
17.6
HAAC, Hungary

LT
41.8

● ICOGRADA
67.1
Univ.of Chile, Chile

11. TOILET(WOMEN)

ICOGRADA
33.5
Sheridan College, Canada

LT
42.9

● ICOGRADA
64.0
Univ.of Chile, Chile

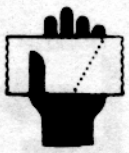
12. PARKING

ICOGRADA
50.0
Bezalel Academy, Israel

Mod/TC
71.6

● Mod/S/TA
78.7

13. TICKETS

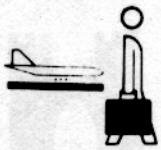


Mod/O'72
14.1

UIC
28.3

ICOGRADA
49.7
National Institute, India

14. ARRIVAL



AF
14.9

Dreyfuss
18.8

ICOGRADA
23.3
UESYO, Turkey

15. BOAT

ICOGRADA
79.0
Bezalel Academy, Israel

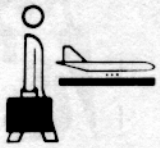
● ICOGRADA
74.5
DGSA, Turkey

● LT
77.7

16. DEPARTURE

Dreyfuss
25.9

ICOGRADA
17.5
UESYO, Turkey



AF
18.6

17. TOILET (GENERAL)

Mod/D/FW
39.0

● ICOGRADA
93.3
Bezalel Academy, Israel

Dreyfuss
68.0

18. LEFT LUGGAGE

ON A 3010
57.0

● ICOGRADA
71.6
Bezalel Academy, Israel

ICOGRADA
56.6
NSCAD, Canada

19. LUGGAGE CLAIM

Mod/S/TA
27.6

IDRG
19.3

ICOGRADA
21.0
Sheridan College, Canada

20. ACCOMMODATION

ICOGRADA
55.0
Osaka Univ., Japan

Mod/TC
19.9

● ICOGRADA
59.0
NSCAD, Canada

21. LOST & FOUND

C.T.
41.5

ICOGRADA
52.6
NSCAD, Canada

ICOGRADA
37.7
Sheridan College, Canada

22. RESTAURANT

ICOGRADA
89.3
EAAOA, Spain

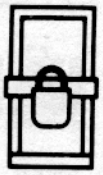
Mod/S/TA
82.2

ICOGRADA
84.1
Bolton College, England

23. CLOSED

ICOGRADA
22.1

ICOGRADA
4.6
UESYO, Turkey



ICOGRADA
16.2
Univ.Catolica, Chile

24. DISPOSE

Dreyfuss
55.5

SFS
80.4

●USDT
86.4

25. DO NOT DISPOSE

ICOGRADA
49.8
EINA, Spain

ICOGRADA
52.8
EAAOA, Spain

●ICOGRADA
60.0
NSCAD, Canada

26. OPEN

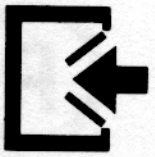
ICOGRADA
33.5
Univ.of Chile, Chile

ICOGRADA
14.3
UESYO, Turkey

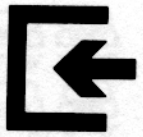
ICOGRADA
15.0
Univ.Catolica, Chile

27. WAY IN

ICOGRADA
47.5
Univ. Chile, Temuco, Chile



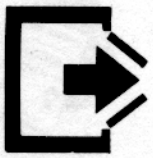
●Sim
57.6



BR
33.2

28. WAY OUT

ICOGRADA
52.3
Univ. Chile, Temuco, Chile



●Sim
55.2

BR
37.6

29. ITEM OF CULTURAL INTEREST

ICOGRADA
19.6
Ohio Univ., U.S.A.

Hung
44.4

B & M
59.3

30. NATURE RESERVE

ICOGRADA
36.8
Bezalel Academy, Israel

ICOGRADA
59.1
NSCAD, Canada

●ICOGRADA
63.3
UESYO, Turkey

31. ITEM OF NATURAL INTEREST

ICOGRADA
16.9
HAAC, Hungary

ICOGRADA
24.1
Ohio Univ.,U.S.A.

ICOGRADA
43.2
UESYO, Turkey

32. SPORTS AREA

ICOGRADA
31.2
Osaka Univ.,Japan

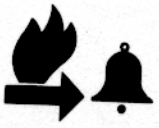
ICOGRADA
65.7
HAAC, Hungary

●ICOGRADA
80.4
NSCAD, Canada

33. FIRE ALARM

ICOGRADA
17.0
HAAC, Hungary

ICOGRADA
48.3
HAAC, Hungary



ICOGRADA
63.0
HAAC, Hungary

34. TELEGRAM

ICOGRADA
21.5
UCLA, U.S.A.

CT
19.8

ICOGRADA
55.0
National Institute, India

35. CURRENCY EXCHANGE

UIC
57.6

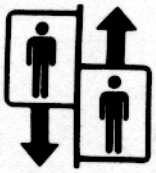
● ENFI
71.4

ICOGRADA
65.5
Sheridan College,
Canada

36. ELEVATOR (LIFT)

ICOGRADA
30.8
EAAOA, Spain

●ICOGRADA
83.1
DGSA, Turkey



ICOGRADA
32.2
HAAC, Hungary

List of originators of symbols tested

AF	Air France
B & M	Unkown
BR	British Rail
BTA	British Tourist Authority
CT	Unkown
D/FW	Dallas - Fort Worth Airport
Dreyfuss	Symbol Source Book 1972
ENFI	Design Group, France
Hung	Hungary
IDRG	Unknown
LT	Unknown
Mod	Rudolf Modley/Handbook of Pictorial Symbols 1976
O'72	Munich Olympic Games 1972
ONA	Oesterreichisches Normungsinstitut/Austria
S/TA	Seattle - Tecome Airport
SFS	Unknown
Sim	Peter Simlinger, Austria
TA	Tokyo Airport
TC	Transport Canada
UIC	Union Internationale des Chemins de Fer
USDT	Unknown
Zwaga	Harm Zwaga, Utrecht