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
icograda

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The copyright of the symbols published in this report belongs to the individual authors.
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.

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 (1285 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 symbols

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.

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.


23. Closed:


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

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).
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 receptacle.
    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
AP Report 99: Applied Psychology Department, University of Aston in Birmingham
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
   - ISO 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
   - ICOGRADA 17.6
     HAAC, Hungary
   - ICOGRADA 67.1
     Univ.of Chile, Chile

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/Zwago 74.7
   - UIC/Zwago 74.5

10. TOILET (MEN)
    - LT 41.8
    - ICOGRADA 67.1
      Univ.of Chile, Chile
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
66.5
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
Unknown

BR
British Rail

BTA
British Tourist Authority

CT
Unknown

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 - Tecombe 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