

## THE MEASUREMENT OF A NEWSPAPER'S POLITICAL PROGRESSIVENESS<sup>+</sup>

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### 1. Introduction

The Dutch number of dailies is decreasing gradually; in 1955 independent local, regional and national newspapers numbered 67 against 51 in 1975. This decline is considered to be a potential danger to democracy because of the assumed positive correlation between the number of newspapers and the political diversity of the press as a whole, the latter being essential to democracy.

In 1974, the Dutch national newspapers De Tijd (Time) had to cease publication. The number of subscribers (newspapers in Holland have registered readers) nearly fell below 55,000, a critical value for this daily. Thus, a period of 129 years in which it appeared as a Roman Catholic quality paper came to an end. Inter alia, the study of De Tijd has been a major research topic for the Department of Mass Communication, Free University of Amsterdam. From 1972 up to 1977 two research projects were in progress<sup>1)</sup>. They aimed at an analysis of social factors influencing the reader's attachment (i.e. evaluation) and behavior towards De Tijd. Our analysis showed that 21 different factors accounted for this. In our second project (1974-1976) we mainly confined ourselves to political factors which do play a role in the process of communication between readers and their newspapers. We especially paid attention to factors which relate the political contents of De Tijd with political characteristics of its readers.

Different aspects of a paper's political contents are to be distinguished. We mention two. First, the political position a paper expresses on the progressiveness/conservatism continuum. Second, the patterning of arguments in editorials as used to support a particular political position. One of the members of our department, G.W. Noomen, will report on the latter in his contribution

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<sup>+</sup>) This article is based in the main on parts from J.J. van Cuilenburg, 1977.

to this volume. In this article we shall describe the measurement of a newspaper's position on the political progressiveness/conservatism continuum.

## 2. Measuring a newspaper's progressiveness/conservatism

Progressiveness/conservatism can be regarded as a dimension of political opinions held by a person or a newspaper (as shown in its editorials on political affairs). In this research project people were considered to be politically progressive if they want the existing social order to be changed, i.e. if they want the existing degree of freedom, equality and brotherhood (solidarity) in their society to be enlarged. Conservative people want the existing order to be preserved; they find the level of freedom, equality and solidarity in their society as rather satisfying. Conservatism and progressiveness are relative phenomena; their concrete meaning varies in time and place. In the Netherlands of 1974, opinions on abortion, income distribution, defense expenditure, freedom to demonstrate, labor participation in the management of enterprises, profit sharing by workers, solidarity towards minority groups etc. were relevant indicators of a progressive or conservative political attitude. On the basis of such opinions, we constructed a progressiveness/conservatism scale for readers ranging from 1 point (extremely progressive) to 7 points (extremely conservative).

To measure the political stand of a newspaper, it would be desirable to consider the same issues. Here we are, however, confronted with the problem that editorials on political affairs do not directly opine on issues like abortion, income distribution etc.; rather journalists writing these editorials react to opinions, policy proposals and the like of politicians, political parties and the government. Generally, most newspapers only comment in negative or positive terms on concrete policy proposals without explicitly putting forward their own policy ideas. Therefore, a paper's political progressiveness cannot adequately be inferred from its own opinions on such issues. In addition, it is practically impossible to develop a coding instruction covering all possible issues in the area of freedom, equality and solidarity; one can

only arrive at an instruction which gives rather free play to the judges. To resolve these problems our project used an indirect measurement method.

The following arguments justify procedures:

1. if we know how progressive relevant political actors (political parties, politicians, the government) are;
2. if a newspaper's evaluation of those actors is a function of the political distance between the newspaper and those actors;
3. then the political stand of that newspaper can be inferred from its evaluation of relevant political actors.

The method to be proposed presumes the truth of a number of assumptions:

- a. the journalist's attitude towards political actors can be measured adequately;
- b. on a progressiveness/conservatism scale the positions of relevant political actors are known;
- c. journalists writing editorials on political affairs have complete insight in the political position of the actors they are commenting on; consequently, the journalists' evaluation of those actors (negative, neutral or positive) is completely dependent on the political distance between the former and the latter.

Especially the last assumption is crucial to our measurement. Its validity determines the validity of the whole method (see paragraph 5).

Actual coding of relevant editorials was carried out in three stages. First, coders had to determine the editorials' subject matter; only editorials on domestic political affairs were considered. Second, coders had to identify relevant political actors (political parties etc.) the editorials were dealing with. The presence of actors was recorded sentence by sentence. Finally, again sentence by sentence, coders had to ascertain whether a positive, negative or neutral judgment of already identified actors was expressed. Hence, sentences were used as recording units. Coders were allowed to use the entire editorial as a context unit.

Once editorials are recorded in this manner, evaluation scores can be

obtained according to the formula:

$$(1) J_x = (F_x - U_x) / (F_x + U_x + N_x)$$

where  $J_x$  = the article's evaluation score on political actor X

$F_x$  = the number of favorable sentences in the article on political actor X

$U_x$  = the number of unfavorable sentences in the article on political actor X

$N_x$  = the number of neutral sentences in the article on political actor X

### 3. Consistent transformation: from evaluation scores to the political stance of a newspaper

For each editorial, the number of evaluation scores equals the number of identified political actors. Evaluation scores are transformed into one particular number indicating the progressiveness/conservatism expressed in the editorial at issue. This transformation, called consistent transformation, is based on the following assumptions (in the example we give a description for a three-actor case):

1. political actors X, Y and Z place themselves on known positions  $P_x$ ,  $P_y$  and  $P_z$  on the progressiveness scale P ranging from extremely progressive (=1 point) to extremely conservative (=7 points);
2. the newspaper's evaluation of X, Y and Z is known:  $J_x$ ,  $J_y$  and  $J_z$  (evaluation scales ranging from -1 (extremely negative) to +1 (extremely positive));
3.  $J_x$ ,  $J_y$  and  $J_z$  are functions of the political distance between the newspaper and X, Y and Z on P;
4. if  $J_x = J_y$ , then  $P_p = (P_x + P_y) / 2$  (where:  $P_p$  the newspaper's political position on P;  $P_x$  the political position of actor X on P; etc.).

(4) is a crucial assumption; it enables transformation of evaluation scores ( $J_x$  etc.) into a score on the progressiveness scale P ( $P_p$ ).

This assumption implies i.a.:

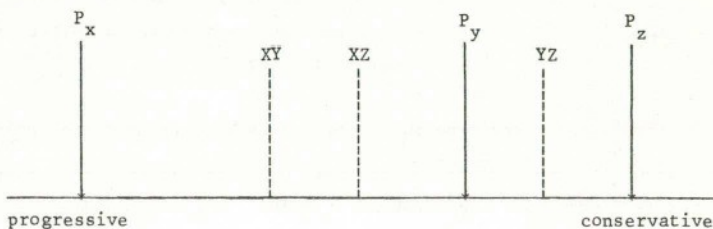
- 4a. if  $J_x < J_y$ , then the paper's position is closer to Y than to X;



4b. if  $J_x > J_y$ , then the paper's position is closer to X than to Y.

Suppose we know the paper's position,  $P_p$ . Then, if all our assumptions are valid, we have to expect a particular pattern of evaluation scores.

An example<sup>1)</sup>



- 1) where  $P_x$ ,  $P_y$  and  $P_z$  the position of actor X, Y and Z on P;  
 $XY$ ,  $XZ$  and  $YZ$  the midpoints between the positions of  
 X and Y, X and Z, and Y and Z.

Let us suppose next that the newspaper is politically most consistent with actor X, i.e.  $P_p$  is closest to  $P_x$ . What can we expect in terms of J-scores? If all our assumptions are true, the newspaper will evaluate actor X most positively/least negatively, then actor Y and finally actor Z. If this paper takes another position between those actors, we can theoretically expect a different kind of evaluation pattern. In case of a three-actor model we can distinguish 4 ( $= 1 + n(n - 1) / 2$ ) theoretical evaluation patterns:

1.  $J_x > J_y > J_z$  from which follows that  $P_p$  is situated between the "left" extreme of the scale and 'XY'
2.  $J_y > J_x > J_z$  from which follows that  $P_p$  is situated between 'XY' and 'XZ'
3.  $J_y > J_z > J_x$  from which follows that  $P_p$  is situated between 'XZ' and 'YZ'
4.  $J_z > J_y > J_x$  from which follows that  $P_p$  is situated between 'YZ' and the "right" extreme of the scale.

By comparing the observed evaluation pattern (e.g.  $J_x > J_y > J_z$ ) with each of the theoretical patterns it is possible to infer the

paper's political position. Mostly such a comparison is not easy to make because of inconsistency, i.e. the observed pattern cannot always be matched completely by one of the theoretical patterns. Inconsistency indicates a degree of untenability of our assumptions, especially that there be a functional relationship between evaluation and "political distance". In case of a high degree of inconsistency, the researcher has to conclude that the journalist's evaluation of political parties is more influenced by all kind of "irrelevant" factors than by party platforms, i.e. by the factor "political distance". Therefore, the degree of consistency can be regarded as a measure of validity of our method.

It is possible to ascertain with which one of the theoretical evaluation patterns the observed pattern is most consistent. We define:

$$(2) C_e = 1 - \frac{\text{number of observed deviations}}{\text{number of possible deviations}}$$

where

$C_e$  = degree of consistency between the observed and the theoretical pattern e

"deviation" = a difference between the observed and the theoretical pattern e

Suppose, we find  $J_x > J_z > J_y$ . Clearly, this pattern is inconsistent with each of the theoretical patterns; it is, however most consistent with  $J_x > J_y > J_z$ .

table 1: An example of inconsistency

<u>observed</u>	<u>theoretical patterns</u>			
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
$J_x > J_z$	+	+	-	-
$J_x > J_y$	+	-	-	-
$J_z > J_y$	-	-	-	+
	$C_e = .67$	.33	.00	.33

1) + = consistent; - = inconsistent

In case of complete consistency the paper's political position is defined as the mid-value ( $M_e$ ) of the interval corresponding to the

theoretical pattern the observed pattern is consistent with. So, if  $J_y > J_x > J_z$ , we define  $P_p$  as:  $P_p = M_e = ('XY' - 'XZ')/2$ . If the observed pattern is consistent with neither theoretical patterns, then (3) applies:

$$(3) P_p = C_i M_i + (1 - C_i) C_{i-1} M_{i-1} + (1 - (C_i + (1 - C_i) C_{i-1})) C_{i-2} M_{i-2} \dots$$

where  $i = 1 + n(n-1)/2$  and  $C_i > C_{i-1} > C_{i-2} > \dots$

This weighting procedure meets the requirement that, if  $C_i = 1.00$ , patterns "next door" which automatically also have a relatively high degree of consistency, are not included in the calculation of  $P_p$ .

#### 4. A complication

The weakest assumption we have made so far, is the presumed knowledge of the political positions of the actors journalists are writing about in their editorials. Before applying our method one has to ascertain the progressiveness of the actors in question. This can be done by direct or indirect measurement.

A direct measurement of the actor's progressiveness is most elegant. One could make an analysis of party platforms, voting behavior and the like. For practical reasons (this would have been another research project) we have, however, chosen an indirect method. Confining ourselves to the description of its essentials, for briefness' sake, judges (i.e. a representative sample of Dutch voters) are asked to judge the progressiveness/conservatism of relevant political actors. From these judgments it is possible to infer the political positions of those actors. Here we have several options at our disposal, most of which are in some way based on Thurstone's "law of (comparative) judgment". Inherently, however, those methods heavily rely on lawlike regularities concerning the way judges judge all kind of physical stimuli (e.g. length, color, speed). Those methods do not allow testing the validity of their basic assumption, namely that judging non-physical stimuli involves the same mental processes as judging physical stimuli does.

The method we propose here starts from judgment theories developed in social psychology, notably by C.I. Hovland, R.E. Nebergall, C.W. and M. Sherif<sup>2)</sup>. From the theories of these social psychologists one can deduce what will happen if people are asked to judge -in particular terms- the progressiveness/conservatism of political parties and their government. According to these theories one might expect assimilation and contrast effects to occur.

Assimilation/contrast hypothesis

if the objective political distance between a judge's own political position and the position of the political actor to be judged in terms of progressiveness is small, then the judge will subjectively underestimate (assimilation) this distance; if the objective distance, however, is great, the judge will over-estimate that distance (contrast).

Since (objective) "political distance" can score negative (judges are more progressive than the actor to be judged) and positive values (judges are more conservative than the actor to be judged), function (4) is the one most suited to give a mathematical description of this hypothesis. This function also has the advantage of making possible a description of assimilation and contrast effects at the same time.

$$(4) D_p = a D_o^3 + c \quad a > 0 \quad c = 0$$

$$(5) D_p = J - A_p$$

$$(6) D_o = J - A_o$$

where  $D_p$  = perceived political distance between judge and political actor to be judged

$D_o$  = objective political distance between judge and political actor to be judged

$J$  = the judge's political position

$A_p$  = the actor's perceived political position

$A_o$  = the actor's objective political position

The argument basic to our analysis goes as follows: if one were to know how people do assimilate or do contrast when asked to judge poli-



tical actors, one could infer from perception (perceived political distance) the real political distance between those judges and the actors they are judging. Technically, making an assumption of this kind implies that we know the constant 'a' in formula (4), the so-called assimilation/contrast constant. Consequently, knowing "perceived political distances" (i.e.  $J$  and  $A_p$  are known), the positions of those actors ( $A_o$ ) could be calculated:

$$(4a) D_o = \sqrt[3]{D_p/a} \quad (4b) A_o = J - \sqrt[3]{D_p/a}$$

Of course, the assimilation/contrast constant is not known, for in that case we would have known the positions ( $A_o$ ) of the political actors at issue. It is, however, possible to estimate the most probable value of this constant, if one is willing to accept certain assumptions which, subsequently, can be tested for their validity. A further examination of these issues exceeds the scope of this essay; here it suffices to report that we arrived at a satisfactory solution to the estimation problem.<sup>3)</sup>

### 5. Validity and reliability

Each relevant editorial was coded twice, i.e. two independent judges had to determine, sentence by sentence, whether the journalist expressed a positive, neutral or negative attitude towards the identified political actors. Seven different actors (6 political parties and the Dutch government) were investigated; transformation, however, was accomplished on basis of 4 actors: the government and the three largest political parties, Labor (PVDA), Christian Democrats (KVP) and Conservatives (VVD). This was done for practical reasons: in using 7 different actors we would have had to deal with 7! (or 5040) empirically possible evaluation patterns against 4! (or 24) patterns in the case of only 4 actors.

No measurement method is better than its assumptions. Concerning the validity of our method, to the extent observed patterns are not consistent, our assumptions are false, i.e. in case of inconsistency a particular observed evaluation pattern cannot completely be explained from "political distance". If there is inconsistency

one must conclude that other factors besides "political distance" do influence the editor's attitude towards a particular actor (e.g. the political style of the latter or the editor's sympathy for the actor's personality). Therefore, it is obvious that consistency between the observed and the theoretical evaluation pattern corresponding with the inferred political position expressed in the editorial, can be regarded as an index of validity. Defining validity as the average degree of consistency, we find  $V = \bar{C}_e = .76$ . Of course, one has to reckon with a certain amount of "reproducibility" on basis of chance alone, i.e. it is possible that a particular observed pattern is consistent with a theoretical one for reasons of chance. In our analysis, using a four-actor model, this chance amounts to  $p = 1 / (4!) = .042$ . The calculated mean consistency, in combination with  $p = .042$ , makes us confident about the validity of our method. The same applies to the reliability of our analysis. Defined as the degree of inter-judge agreement on the evaluation scores  $J_x$ , reliability amounted to Pearson's  $r = .74$  (computed across all relevant actors).

#### 6. Some results and possible applications

In using this method we have been able to measure, in a satisfactory way, the progressiveness/conservatism of the Dutch national daily press in 1974.

table 2: Progressiveness/conservatism of the Dutch national daily press in 1974

<u>newspaper</u>	<u>progressiveness/conservatism</u> <sup>1)</sup>
Het Vrije Volk	2.46
De Volkskrant	2.63
NRC/Handelsblad	2.68
De Tijd	3.21
Trouw	3.47
Het Parool	3.85
Algemeen Dagblad	5.14
De Telegraaf	5.49

1) scale ranging from 1 (extremely progressive) to 7 (extremely conservative).

Measurement is not a goal in itself, it is instrumental to further research in the field of political characteristics of newspapers and their readers. We mention two possible applications. First, this method enables us to make an analysis of the way readers perceive the political contents of their newspapers. Such an analysis which consists of a comparison of "objective" characteristics of newspapers with perceived characteristics has successfully been carried out. It involves testing the already mentioned assimilation/contrast hypothesis (see paragraph 4); this hypothesis was empirically supported.<sup>4)</sup>

Second, this measurement is instrumental to an empirical analysis of the present state of the political diversity of the Dutch daily press. As said before, the number of dailies in the Netherlands is decreasing gradually. For policy reasons (the Dutch government is legally entitled to financially support "endangered" newspapers) it is necessary to define, measure and evaluate its "political performance". A brief description of our analysis follows: two elements constitute the political diversity of the press: diversity between different newspapers (inter-media diversity) and diversity present in separate newspapers (intra-medium diversity). We define:

$$(7) D = s / \bar{X}$$

where D = political diversity of the press

s = standard deviation in terms of scale P of all editorials on political affairs

$\bar{X}$  = arithmetic mean

$$(8) D = \text{inter-media diversity} + \text{intra-medium diversity}$$

$$= \frac{\sum (\bar{X}_j - \bar{X})^2}{N \bar{X} s} + \frac{\sum (X_{ij} - \bar{X}_j)^2}{N \bar{X} s}$$

where  $X_{ij}$  = the progressiveness of editorial i in newspaper j

$\bar{X}_j$  = the mean progressiveness of editorials in newspaper j

The relevance of political diversity of the press has to be judged in terms of normative democratic theory. Here we mention one of the functions the press, from a democratic point of view, has to fulfil.

It is generally agreed that dailies ought to give a representative picture of political opinions held by the people, i.e. the press has to perform the so-called expression function. Whether this function is adequately being performed, can be measured by comparing the frequency distribution of political opinions held in the population (e.g. in terms of progressiveness/conservatism) to the distribution of opinions present in newspaper editorials. We define as degree of reflection by the press:

$$(9) R = 1 - \sqrt{\frac{\sum X_i^2}{\sum X_{i, \max}^2}}$$

where R = degree of reflection ( $0 \leq R \leq 1$ )

$X_i$  = difference between population distribution of opinion i and distribution in the press (difference in percentages or proportions)

$X_{i, \max}$  = difference between population distribution on opinion i and distribution in the press in case of maximum non-reflection (=only the least present opinion in the population is present in the press)

table 3: Political opinions held by the Dutch population compared to opinions present in the Dutch national daily press (1974)

progressiveness/ conservatism <sup>1)</sup>	population %	press <sup>2)</sup>	$X_i$	$X_{i, \max}$
1 - 2	21.2	10.7	10.5	21.2
2 - 3	21.2	25.8	- 4.6	21.2
3 - 4	21.8	26.5	- 4.7	21.8
4 - 5	18.0	4.5	13.5	18.0
5 - 6	7.6	29.2	-21.6	-92.4
6 - 7	10.1	3.2	6.9	10.1
	99.9	99.9		

1) scale ranging from 1 (extremely progressive) to 7 (extremely conservative)

2) basis: editorials on domestic political affairs



Applying (9) to table 3, we get:

$$R = 1 - \sqrt{\frac{849.9}{10337.9}} = .71$$

The R-coefficient is a useful tool in the making of governmental press policy. It enables policy-makers to determine which contribution different newspapers make to the reflection by the press as a whole of opinions held by the population. Technically, this assessment can be made by eliminating papers, one by one, from the calculation of the R-coefficient: a decreasing value of the R-coefficient indicates a newspaper's positive contribution to reflecting population opinions by the press as a whole, an increasing value indicates a negative contribution. So, besides other relevant criteria which have to be applied, data can be obtained helpful to decisions in the field of governmental subsidies for financially weak newspapers.

Notes

1) Publications:

- J.J. van Cuilenburg, J. de Jonge, G.W. Noomen, De Tijd in Vijf Dimensies (Daily Time in Five Dimensions), Free University, Amsterdam, 1973;
- idem, Tijd-Gebonden (Attachment to the Daily Time), Free University, Amsterdam, 1974;
- J.J. van Cuilenburg, Lezer, Krant en Politiek (Reader, Newspaper and Politics), Free University Book Store, Amsterdam, 1977;
- G.W. Noomen, Beweren en Motiveren (Assertions and Arguments), Free University Book Store, Amsterdam, 1977.

- 2) Cf. M. Sherif and C.I. Hovland, Social Judgment, assimilation and contrast effects in communication and attitude change, 1961;  
C.W. Sherif, M. Sherif and R.E. Nebergall, Attitude and Attitude Change, the social involvement approach, 1965.

- 3) Cf. J.J. van Cuilenburg, 1977, p. 286 - 298.

4. E.g., for the daily De Tijd we found  $D_p = .08673 D_o^3$  ( $r=.73$ ;  $n=689$ ), where  $D_p$  = "perceived political distance between reader and newspaper" and  $D_o$  = "objective political distance". Given the political position of De Tijd (3.21 points on a scale ranging from 1 = extremely progressive to 7 = extremely conservative),  $D_o$  ranges from - 2.21 to + 3.79.